

FIFTEEN
DISCOURSES
ON THE
MARVELLOUS WORKS
IN
NATURE,
DELIVERED BY A
FATHER TO HIS CHILDREN:

CALCULATED TO MAKE MANKIND FEEL, IN EVERY
THING, THE VERY PRESENCE OF A SUPREME BE-
ING, AND TO INFLUENCE THEIR MINDS WITH
A PERMANENT DELIGHT IN, AND FIRM
RELIANCE UPON, THE DIRECTIONS
OF AN ALMIGHTY, ALL-GOOD,
AND ALL-WISE CREATOR,
AND GOVERNOR.

By CHARLES CHRISTOPHER REICHE, M. A.

PHILADELPHIA:

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District of PENNSYLVANIA, to wit:



BE it remembered, that on the fifteenth day of October, in the fifteenth year of the Independence of the United States of America, CHARLES CHRISTOPHER REICHE, M. A. of the said district, hath deposited in this office the title of a book, the right whereof he claims as author, in the words following, to wit: "Fifteen Discourses
 " on the Marvellous Works in Nature, delivered by a Father to his Children: calculated to make mankind feel, in every thing,
 " the very presence of a Supreme Being, and
 " to influence their minds with a permanent
 " delight in, and firm reliance upon, the directions of an Almighty, all-good, and all-wise Creator, and Governor.

" By CHARLES CHRISTOPHER REICHE, M. A."

In conformity to the Act of the Congress of the United States,  An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned.

SAMUEL CALDWELL,

Clerk of the District of
 PENNSYLVANIA.

HAVING perused the above Discourses, we deem them both instructive and pleasing, and well adapted to the use of public-schools. by their plain reasoning, from striking facts.

JOHN ANDREWS, D. D. Professor of Rhetoric and Belles Lettres, in the College of Philadelphia.

NICHOLAS COLLINS, D. D. Rector of the Swedish Church in Pennsylvania.

SAMUEL MAGAW, D. D. Vice-Provost of the University of Pennsylvania.

DAVID RITTENHOUSE, L. L. D.

PHILAD. May 26, 1790.



I HAVE perused, with attention, Mr. Reiche's Discourses, in manuscript; and think they may be of very essential use as a school-book, more especially, perhaps, in a country such as this of the United-States. Many of the facts which they contain are strikingly related, and the reasonings from those facts are often new, and ingenious. They have, in my opinion, several advantages over the somewhat similar works of Derham and the Abbe Pluche, being much less voluminous than the last, and nearly a century more modern than the first, of these performances.

BENJAMIN SMITH BARTON, M. D. Professor of Natural History and Botany, in the College of Philadelphia.

PHILAD. June 7, 1790.

MR. REICHE having put into my hands the printed sheets of his "Fifteen Discourses on the Marvellous Works in Nature," I have read them with great pleasure, and am of opinion that the work is calculated to beget a grateful admiration of the power, wisdom, and goodness of the SUPREME BEING, which are manifested in the vegetable and animal creation. I sincerely wish that it may be introduced and read in all the schools in the United States.

BENJAMIN RUSH, M. D.
Professor of the Theory and
Practice of Physic, in the
College of Philadelphia.

PHILAD. October 14, 1790.

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ERRATA:

Page. Line.

- 15 - 1, to parties, read, to two parties.
- 49 - 11, and there are, read, and these are.
- 57 - 3, for sewing, read, fowing.
- 61 - 10, of two persons, read, of five persons.
- ibid. 29, maing two, read, maining two.
- 66 - 5, ground is more, read, ground is now more.
- 69 - 24, reap a great, read, reap no great.
- 127 - 12, to irradicate, read, to eradicate.
- 134 - 13, why it must, read, why must it.
- 149 - 27, who have so, read, who hath so.
- 154 - 2. your light, read, your eyes.

I NO 61

P R E F A C E.

SINCE it is not given to man to think in one moment of two different and unconnected objects, in the hurry of his business, and the frequent sense of so many sad incidents, he must lose the thoughts of God, if the business and the incidents themselves, or other things which surround him, have not an apparent connexion with them.

COULD one say : Lo ! there is God ! and man then visibly behold him, in the deepest prostration he would adore his sublimest excellencies, and all his illicit passions would as immediately be suppressed, as the most violent passions of unlawful love would, even in the mo-

ment of their long-wished for gratification, at the sudden appearance of a highly respectable person.

ON these two undeniable principles, I speak of natural things, such as every where surround every man, and connect with them the thoughts of God so evidently and indissolubly, that he, who hath once fixed them in his mind, when he was a youth, even if he would, could not get rid of them, when he is a man, but must live under an habitual sense of the presence of God, and act up to his pleasure and commandments, even amidst his worldly occupations.

FROM these my sentiments the judicious reader may learn, by what rules to judge of these discourses, and to reflect, whether he can comply with, and

promote the earnest wishes I entertain
of seeing these pages in the hands of
many, and particularly those of the
youth.

IF I should be so happy as to meet
with the approbation of the ingenious
and virtuous in this my well-meant
performance, I propose, in some other
discourses, connecting the worldly bu-
siness of man, as well as their manifold
sufferings, and the miseries of life with
the thoughts of a supremely benevolent
Being in the same manner, as I have
connected them in these with the works
of creation. I propose, I say, to shew,
that so far from any worldly, yet use-
ful occupation being in opposition to a
habitual remembrance of an Almighty

and all good God, or any of the innumerable miseries, which we meet with, to our felicity, they rather both may perpetuate this remembrance best, and constitute the most proper means of completing our eternal blissfulness: that therefore not only the man of fortune, but even the most miserable amongst us, should adore his Maker, for his having fet him at work, however painfully, upon earth, and not immediately taken him up, and admitted him into the blissful regions of heaven.

L NO 61

PHILADELPHIA, SEPT. 3, 1792.

FIFTEEN
DISCOURSES
ON THE
MARVELLOUS WORKS
IN
NATURE.

DISCOURSE I.
ON THE UNIVERSE.

Dear Children,

AS a matter of very serious consequence, I would have you contemplate, the globe which we inhabit, the greatness of its extent, and especially its immense weight.

As from the summit of this mountain, whereon we stand; whilst neither obstacles from below, nor clouds from above, confine the prospect, we cast our eyes around, though we cannot enjoy the view of the whole, yet, from a survey of the small part of the hemis-

phere, now in our sight, must we not exclaim? how immense is the extent! what human calculation can determine the weight of so prodigious a mass? You may well marvel, my dear children, how it is possible that so great and weighty a globe can stand continually firm, ever kept from falling, or even deviating from the situation, in which it was first placed?

SINCE by the laws of nature, as far as you observe them, material things must either be held up from above, or supported from below, or else fall to the ground; you might conclude, that this globe, our earth, must therefore either fall into the abyfs, or be held up by a kind of chain, or have whereupon to rest its stupendous weight. But where is that chain to which the earth hangs, or the basis which sustains this ponderous mass.

No such chains are seen around the globe, and was there such a basis, what immense pillars, or underworks must be requisite to support the weight of the earth and its basis? what more prodigious pillars or foundations must be necessary for the aggregate weight of these? yet, even then the last of them all must be without support. You can but wonder at so stupendous a work, at so miraculous a disposition.

WHEN ye behold the sun, the moon, and

the innumerable multitude of stars, after even a slight reflection, you will hardly be so limited in your conceptions, like common observers, as to conclude them to be nothing more than the ornamental spangles of the sky. You must rather behold them, as what the wise of all ages, and in all civilized nations, after the minutest investigation, have unanimously reported them to be worlds, and globes; some, nay almost all of them, many hundred, yea many thousand, times larger than our earth; continually whirling upon their axes, and performing their stated revolutions, with astonishing rapidity. As such, I say, you ought to behold these appearances in the sky; and how can you behold them otherwise?

THOSE, who describe them to be of so enormous an extent and weight, possess not, it is true, what a childish ignorance, or the vulgar might require, viz. stairs for ascending the ether and measuring these globes in the common way; yet you well know, they foretel the rising and setting of them in our almanacs; not in a vague and doubtful manner, but plainly, and positively. They can announce the appearances of some of the comets, and of all the eclipses, which the sun, the moon, and many of the stars undergo. They, with certainty, predict, not only the days

and hours, but even the minutes and the seconds, in which a star shall appear; or an eclipse begin; to what degree such an eclipse will spread, how long its increase, as well as decrease will continue, and what will be the moment of its end.

BUT, if they could not measure these bodies nor define minutely their daily, yea hourly, stages in their respective periodical rotations; nor exactly determine their size and extent, how could they predict such incidents so accurately? their predictions would prove them as erroneous, as yours would prove you, if you should rashly venture to prognosticate these events. And can any one say, their numerous predictions have ever failed? how then can you doubt, that these studious men are acquainted with the best rules for measuring these bodies, and that they are really as large, as they assert them to be?

It must be allowed then, my children, that thousands and thousands of stupendous globes exist, and roll through the immense transparent ether, equalling in rapidity even the swiftness of lightning. Like the earth they are neither upheld by chains, nor supported by pillars underneath. Pendulous, or rather floating, they whirl and sail along in the fluid ether. Thus sailing and whirl-

ing through the boundless dimensions of space, without any compass, or apparent guide, by what miraculous power and intelligence is it, that not one of them disappears; not one mistakes its road; not one deviates from its path; not one intrudes upon another, by a too near approach; or dashes against, much less crushes, its neighbour, by its enormous weight and velocity?

LET us now turn our thoughts to that early period of time, when the earth, as well as all the other globes in the vast expanse, were formed and arranged. You will ask, out of what materials were they formed and created? whence were these materials procured? I confess, dear children, these questions are not to be explained any otherwise, than by ascribing their formation to a POWER incomprehensibly intelligent, who knew how to create matter out of nothing.

BUT supposing, what some have imagined, that the materials for all these globes existed from eternity, either dispersed, or gathered into one enormous heap: you may still query; who gathered, and distributed these materials to every marvellous frame in this multitude of innumerable, yet different spheres? who cemented, or connected those in every sphere, so as never to destroy, or jar against each other, or even to separate? who also fashi-

oned their shapes, rounded them all, and fitted them for their circular courses? who gave to the weight and extent of each, a just proportion to that space, which they were intended to occupy, and that orbit, which each of them should describe?

AFTER these inquiries, you may still further ask, who filled that infinite space, which surrounds them all, with sufficient ether? who so exactly measured and weighed the innumerable worlds, which were to be placed in it, and supported by it, that they might roll forward, yet never deviate from their way? who was so strong and powerful as to support, and suspend in this immensity of space such weighty orbs, and even that stupendous one of heat and light, the sun? who was so perfect in knowledge, and exact in calculation, as not only to proportion the weight of each of these orbs, but also to balance them by the pressure which their own weight as well as their rapid motion, must occasion, both upon the ether, and upon their fellow globes?

SUPPOSING also that the air, either from above, or from below, could press upon our earth, or upon some other globe, more forcibly than from the opposite side, these globes, thus floating and sailing in the fluid ether, would, like a ship in the ocean, be driven from their courses, But the studious of all

ages unanimously agree in this particular, that not one of them ever flies from its orbit. What therefore can the deep philosopher, as well as the man of plain understanding, say with respect to these facts? must not all acknowledge, that there was, and remains to be, a supreme Intelligence, capable of calculating all these dimensions, weights, and pressures, with astonishing and unerring precision?

IF the earth had been set on fire, as the sun seems to be to common observers, you will easily conceive, that it would not have burnt so long as the sun, but would soon have been consumed and reduced to ashes. Therefore there must be a great intrinsic disparity between the materials constituting the sun, and those constituting the earth? again, if the earth had been placed, either many thousand miles nearer to, or further from the sun, like some of the other planets, you may apprehend, it would soon have been laid waste, either by burning heat, or excessive cold. No doubt therefore can remain with you, but that all the planets also have been framed out of materials entirely different from those of our earth. Even supposing the pre-existence of all the elements from eternity,

there can be no doubt, but that there must be an infinite Intelligence, perfectly acquainted with these differences in the elements, and capable of effecting a proper assimilation of them with the frames of the several globes. A most rational Being must therefore exist, capable of discriminating between each of the elements, and precisely judging of their comparative nature and properties.

I shall not conceal from you, that in the same manner as men, overcome by the splendor of the rays of the sun, perceive its light only, and by no means those causes from which it proceeds, so there have been numbers, who at the sight of the stupendous works in nature, have had their eyes so extremely dazzled by the powers displayed in these works, as not to perceive the consummate wisdom, and supreme benevolence of them, though ever so apparent and undeniable. Moreover, I shall not conceal from you, that even those, who were no less incapable of denying the existence of a Being, endued with infinite power, than of contravening the existence of a species of fire in the sun, have indeed admitted such existence; but neglecting further enquiries, have fancied this Being a mere power, destitute of reason and intelligence. And having divided themselves in-

to parties, have contended, either for an absolute necessity, and unchangeable, yet irrational and inanimate power, under the name of fate, or, if possible, for a still more irrational, yet pretendedly contingent and changeable power, under the name of chance. I must also acquaint you, that from either of these fancied powers or agents, they have presumed to derive, as from the first and principal cause, all matter, order, and event in the universe; ever arguing, that there was no plan, no design, or end in nature, and that as well all matter, as every incident, either must necessarily be as they are, and could not be otherwise; or might have been, although in the reverse, equally good or bad.

THIS observation, concerning fate and chance, you ought particularly to remember, for I am about to shew you with respect to every created thing, whether there is plan, and design, or not; so that ye may judge for yourselves, whether you can admit these principles, or must rationally oppose, and reject them.

If you have already discovered the different elements most properly discriminated from each other, yet wisely connected in the several orbs, that roll through the extensive ether; if you have already discovered, that the

weight of all these orbs has been most exactly determined, and their orbits most infallibly prescribed; will you not then allow, that you have already discovered not only a power, but also an intelligence? can you then, with respect to the works in the universe, have recourse to unintelligent fate, and chance? and not rather to a Being of a much higher order, equally powerful and intelligent.

As after a short survey of the universe, and a slight reflection upon it, this must ever be your judgment, let not your thoughts be diverted therefrom, dear children! ever raise your contemplations to the immense universe! ever behold with awe, the innumerable multitude of globes incessantly and rapidly sailing through the immeasurable ocean of air! ever admire, how all of them hang upon nothing, yet are fixed in the skies, as if they were fastened there with mighty chains! admire the uncontrollable power, and infinite intelligence, more than adequate to the planning and affecting of designs, so astonishingly great as those, yet evident and undeniable! In seeing the glorious performances of so adorable and powerful an Intelligence, how can you resort to irrational, and inexorable fate, or chance? And after all, in the hours of sickness, or dissatisfac-

tion, when you may be in danger of sinking beneath the weight of calamity; what can you expect from the imaginary powers of fate or chance, succour can only be expected from a power unlimited, unwearied, and intelligent.

DISCOURSE II.

ON THE CLOUDS, WINDS, LIGHTNING,
THUNDER, RAIN, HAIL AND SNOW.

YE well know, dear children, how it often times raineth, snoweth, and haileth; how it bloweth, thundereth, and lighteneth, some times in such a degree, as to make the earth tremble, and to affect almost every breast with amazement and horror.

FOR many thousand years this hath been the case. Storms and tempests have prevailed at different periods. Thunders have rent the air and shaken the ground. Lightnings have darted their tremendous flashes from pole to pole, raging as if every thing under heaven was inevitably exposed to destruction.

NOTWITHSTANDING this, you see the earth continues, unspoiled, and uninjured, producing fruits and animals of every kind, as it did formerly. This, methinks, is no less wonderful, than it is true and evident.

OBSERVE the clouds, now darkening the sky, and dismissing in drops a part of the water they contain! how ponderous must they be! by what means do they support and bear along so enormous a load?

SCARCE hath this vessel been set out of doors, before it has grown so heavy, that I cannot move it. If you were told, that such a vessel filled with water, or at least the weight thereof, had been sailing in the air, you would think it incredible; yet, it really is, as if the weight of millions of them had been in such a situation.

OTHERS can fill their vessels with rain, as well as myself, and as much as will drop into mine, will drop into theirs also. And if it were possible, that vessels could be set on every spot of ground, whereon the rain falls, I suppose all the cattle in the world, could not carry off, nay, not so much as move the mighty load, even though the vessels could be taken away, and nothing were left but the rain; nay, though the cattle were assisted by the united strength of all mankind.

BUT did not the clouds contain this mass of water? were they not fraught with that enormous load, which the united strength of men and beasts could not move? and did not they carry it from east to west, and from north to south, when they were sailing in the sky?

YOU will think it always easier to cast a weight upon the ground, than to draw

it along. What then can a plain man think, on seeing the raging storms driving the heavy clouds over the globe, without letting them fall, which, as it is a thousand times easier, might have been the case a thousand times for one?

FROM the lamentable effects of winds and storms upon the earth and sea, you may conceive, what their effect would be in the air, if they were not directed, and controlled there by a wise and benevolent power. Notwithstanding they are not altogether uncontrolled upon earth, as they sometimes rush forth in hurricanes; they dash the largest navies on the rocks; root up whole forests, as if they were but shrubs; and overthrow palaces, as well as huts. Why are not similar effects observable in the sky? why do not storms dash clouds against clouds, overthrow them and cast them on the ground? is it possible to observe this favourable difference in the effects of storms, and not perceive the interference of a directing and benevolently preserving Being?

BESIDES this, while it rains and thunders, there is often, a sharp and continual lightning in the sky. Marvel then that there is a fire, that can pierce through the

midst of the water in the clouds, without being extinguished. Had man been called upon to devise where this fire, so necessary for the growth of vegetables, and the health of the living creation, should be lodged, he, fearing its extinction, would never have made the clouds its store-house. He would have placed it somewhere else, out of the reach of water, as well as of storms. But, if this had been the case, no doubt, it would have soon reduced both herbs and trees to ashes.

It is dangerous indeed to leave flames exposed to all the fury of a storm; and no man would permit his servant to make a fire in the midst of his farm, during a tempest. Nor could there be a more certain proof of insanity in the inhabitants of a town, than making up a fire before the doors of their wooden buildings during a storm. The entire destruction of such a town would inevitably be the consequence.

NOTWITHSTANDING this, you may observe thunder and lightning in tremendous flashes, spread over forests, barns, and dwelling-houses. Is not this as much as fire before the doors of houses in a town? is it likely, that any house or barn could remain unhurt, if there was no greater caution observed against the consequences

of the flashes of lightning, than against common fires in the towns? yet we see scarce one of ten thousand flashes destroy even a single barn, or house, though thousands might have been destroyed by them. Must there not therefore be a direction, and consequently a directing power.

IN paying further attention to the wonders of the sky, you will also find, that snow and hail descend from thence, and are driven about by winds and storms, but ever in such a manner, as not to desolate the earth, and seldom to slay men and other animals. But should the drops, which commonly freeze singly into hail, harden into much heavier balls of ice, or should the whole body of water in the clouds, suddenly congeal, and fall to the ground, no herb or tree would escape uncrushed: no bird or beast would remain unwounded. And should winds and storms be permitted at once to discharge, over a single country, all the snow they contain, would not all birds and beasts die for want of food, or be buried alive? and would not the poor inhabitants of great towns miserably perish by cold and hunger?

It is true, dear children, from more mature reflection, you will learn the causes of these phenomena much better, than

we now conceive them. But the corollaries, to be deduced therefrom, will ever remain the same; ever evincing the existence of a Being infinitely intelligent. For, how can you imagine, that unintelligent, irrational fate, or chance should have thus regularly created and disposed clouds and winds, rain and hail, thunder and lightning?

LIGHT and darkness, heat and cold, rain and snow, hail and storm, have been dispensed for many thousand years. Extensive as this globe is, no spot of it hath remained unprovided with fructifying moisture, or (since the deluge) has been wasted by excess of rain. Every country, from difference of soil and climate, requiring, in various degrees, either the warming rays of the sun, or the refreshing and purifying winds and storms, hath been either sufficiently warmed, or cooled and refreshed. None has been ravaged; none absolutely neglected. All the clouds have been weighed, as in scales, and the amount of their waters ascertained, as if they had been duly meted; so, that the winds and storms might bear them up, and disperse them over the earth. Is it possible to ascribe such adequate arrangements to fate, or chance.

ON meeting with the footsteps of a man

in a wilderness, no doubt would remain with you of a man's having been there. Thus, when you behold in the clouds the traces of a benevolent intelligence and supreme direction, can you doubt that there really must be an all-intelligent and all-directing Being, possessed of supreme benevolence; balancing the clouds; walking upon the wings of the wind, and wisely increasing their force, or moderating their fury?

NAY, my children, even if it were possible, you could be mistaken in this opinion, yet you may dwell upon it with delight, and rejoice upon earth, as in the palace of a most gracious monarch, rather than riot here in a bedlam amongst madmen. To be left in such a house at the mercy of lunatics, would not be so horrid, as to be exposed to an incorrigible and inexorable fate, or chance, especially when armed with storms and tempests, lightning and thunder-bolts. Happily this supposition will ever be chimerical! were it otherwise, and could it ever be, but for a few hours, consistent with reality and truth, every thing would be thrown into confusion, if not utterly destroyed.

How much better then is it for you, dear children, not to fight against truth and

common sense; how much better not to think yourselves exposed to calamities so frightful, and so ruinous! under the kind protection of a being consummately wise, and all-powerful, whom all the elements obey, ye may walk secure! under his government ye may smile at the menaces of lightning and of thunder, and see, even in the most tremendous flashes, an eye, that watches over you, with an all-comprehensive glance, distinctly knowing the wants of feeble creatures, and delighting, as you see, to bless the workmanship of his hands.

C

DISCOURSE III.

ON HERBS AND TREES.

GREAT is the variety observable in the numberless kinds of herbs and trees. It would be vain, indeed, to attempt to enumerate them all to you! nor is it given to me to explore all the wonders they contain. I scarcely know the external even of a very small number of them: the more essential, or vital, parts, I shall never be permitted to know. But, as in other cases, so also in this, the causes are hidden, but the effects may be seen. And with regard to herbs and trees, I really observe effects, which make a deep and awful impression upon my mind, and, also, deserve your attention.

FROM various seeds spring up, as you may observe, various kinds of herbs and trees. These seeds excepted, you will not find any vegetable productions so hardy, as to endure all the cold of the winter, without being deprived of their native virtues.

FRUITS of trees, for instance, and also potatoes, cabbage, roots, &c. must be defended from the frost; not so with wheat, rye, barley and other species of grain. Grain,

being not only food, but seed also, is not injured by the frost, though wholly exposed to it.

SEED is of a mealy, or oily substance; but a watry quality prevails in most other vegetable productions. By this difference you will find, that the piercing cold of the winter cannot injure seeds; yet must injure other vegetables, and even render them unfit for any use. In attending to this, and at the same time reflecting on the situation, in which men are placed, you will certainly again meet with traces of an intelligent, benevolent, and almighty Being, and be struck with admiration, with gratitude, and love.

IT is evident, that there was no absolute necessity for such a difference in vegetable productions, and that, therefore, they cannot proceed from fate. The same sap which entered into the roots and stalks, entered into the seeds also, and might remain in them, as well as in fruits, unchanged. But, supposing this to be really the case, what would be the consequence?

WITH respect to men, the consequence would be, that they would be obliged to collect all these sappy kinds of seed, at proper seasons, even from pastures and forests, in order to secure them against cold,

and to sow them at a suitable time. But, if this were the case, men durst not sow any seed in the fall; they would be obliged to reap, or mow the woods and grazing places, at the same time, when the fields and meadows would require their attention; they would also sow the woods and grazing places extensively, and only in the spring. From the present condition of men, you may learn what inconveniences, difficulties and losses this would occasion.

HUSBANDMEN have both the whole autumn and spring for sowing grain, and sow nothing therewith, but the fields; yet, they are so occupied in both these seasons, as hardly to complete this business. Husbandmen, also, reap crops of grain from the fields only, and grass from the meadows; yet have scarcely hands enough to complete their toil. If they were forced to collect the seed of every species of grass, and sow the same, as well as the grain, and only in the spring; would they not despair? would not their strength be soon exhausted, and their lives shortened by such excessive toil?

COULD we call our husbandmen loiterers, and charge them with remisness, or laziness, then such an ordinance in the seed

might have been admitted. But, now, that industry is so universally, and so eminently characteristic of these men, every one ought to confess, that an ordinance like this, would divide our crops, and deprive us of more than half the food for our cattle; consequently, the moiety of men and beasts, after having greatly suffered from famine, would perish. How then can you account for this most advantageous difference between seeds and other productions?

FATE and necessity are strangers to all variety, as chance and contingency are to conformity, and entire equality. Upon the same spot, by the same air, heat, and moisture, the same sap and juice are changed and altered, now into seed, then into other productions; here into a mealy and oily, there into a watry; now into a durable, and now into a perishable, substance. This can by no means be the effect of never changing fate.

BUT, on the other hand, in every ear, in every grain and seed, perfectly the same substance, and in every other production the same juice is always found. This, certainly, cannot be the operation of ever varying chance. But, how will you ex-

press your wonder, when you advert, also, to the fruits, or natural productions of the seeds !

If you should drop any fluid through a pipe, it would not transform itself into the substance of that pipe. Great as the effect of fate, or chance, may be thought by the vulgar, yet they themselves will not admit of such a metamorphosis. To what, therefore, will you recur, as the agent of that great and general transformation, which invariably appears in the growth of herbs, and of trees ?

UPON the same spot of ground, in the same heat of the sun, and in the same air, the very same moisture is imbibed by the roots and leaves of very different kinds of plants; and yet all these kinds grow and flourish (not as plants, or fruits, equal in quality, but as plants and fruits of their own species) into plants and fruits unequal, and greatly diversified.

BE the manner what it may, a transformation is really effected; earth and air, moisture and heat, have really, partly effected, partly undergone, a transformation. This is a fact too obvious to admit of denial, or doubt: what conclusion, then, must thence be inferred ?

SEEDS may justly be compared to some

sorts of pipes. Sworn by the moisture of the earth, the vegetable tubes are like those, which one may fill with any fluid. In this case, no one would attribute any transformation to fate, or chance: neither would you ascribe to either of them the general transformation in nature.

ONE portion of moisture having passed through the seed of an oak, is transubstantiated into the trunk, twigs, leaves, and fruits, of that tree. Another portion of the same moisture, having entered into the seeds of an apple, pear, or cherry-tree, is transubstantiated into the branches, leaves, and fruits, of these respective kinds of trees, ever accompanied with such colour, smell, taste and virtues, as are correspondent with, and homogeneous to, the seed itself. This is, you will own, no less wonderful than that a fluid should be changed and transubstantiated into gold and silver, when dropped through a pipe of gold or silver, but into iron, glass, or wood, when dropped through pipes of these.

ALL the elements, however potent, cannot cause the least deviation in the seeds from their nature. On the contrary, even the smallest and weakest of seeds, prevail over the elements, and are attended

with innumerable transformations. How marvellous then is that power inherent in them !

If you had been shewn performances, like those in nature, at the house of a friend ; if, for instance, whatever you should deposit in it, should be transubstantiated, sometimes into silver or gold, sometimes into iron or glass ; to what would you ascribe these transubstantiations ? would you think them the works of absolute necessity, or the mere effects of chance ? or would you not acknowledge an extraordinary skill and intelligence in your friend, the owner of that house ? Is it possible, then, that you can ascribe those universal and annual transformations in the magazine of nature, to fate or chance, rather than to an all-comprehensive intelligence, an all-efficient power ?

WHEN I visited the pleasure-gardens of the European nobility, I saw green-houses, wherein small numbers of foreign plants were preserved, by imitating nature with respect to their native soil, and by procuring them as much heat, or fresh air, moisture or dryness, shade or sunshine, as they knew to be bestowed upon them in their native countries, by nature. Princes, and the great, in general, are, in that quar-

ter of the globe, very fond of having one, or more, of such houses; and for this purpose, they keep, in their services, numbers of well-experienced gardners; pay them generously, and treat them with confidence.

WILL you, then, charge these princes, and even whole nations, who greatly approve these practices, with want of consideration, for not committing the care of these foreing plants to fate, or chance, or an unexperienced youth, who would serve them for much lower wages, than those gardeners? such conduct would be but just, if fate, or chance, determined the soil, and dispensed the air, the rain, the sunshine and the shade. If this could be expected by common sense, from either fate, or chance, why are gardners kept in pay, and such expensive buildings erected? can he, therefore, be thought to be in his senses, who attributes these universal performances in nature, to fate, or chance?

EVERY one can most clearly perceive the difference in these hot-houses of the nobility, when managed by attentive and skilful, or by negligent and unskilful, men. In proportion to the capacity or incapacity, the attention or negligence of these gardners, the plants are either conveniently or inconveniently disposed, and the leaves, blos-

soms, and fruits are either in full vigour, or else languishing. Thus, these manifold productions, are either propagated, or destroyed.

SUCH I found, my children, to be the condition of these foreign plants; and here you may ask, Why plants languish and die in green-houses, but flourish and propagate in the store-house of nature? is it not evident, that it is in proportion to the skill and care of those, who plant and cherish them, that they either perish, or survive?

IRRATIONAL fate could not admit of this variety, nor chance of that natural and universal conformity: what, then, can be more clear, than that there must be a Being, whose skill and care are infinite; who planteth and cherisheth his works, throughout this globe?

THE herbs and trees peculiar to a hot climate, wither and die in a cold one; and those peculiar to a cold climate, languish in a hot one. This is known by experience. No species of herbs, or of trees, has disappeared, so as to become altogether extinct. This, also, is known by experience. What consequence, then, can be more true and indisputable than this; that the same Being, who first planted herbs and trees, planted them according to their nature,

hath ever cherished them according to their nature, and hath ever cherished them according to their climate. This Being, therefore, cannot be unacquainted with the nature of every kind of herbs and trees, nor can he be irregular, or unwise, in his dispensations. He is, indeed, perfectly regular, omniscient, and infatigable! thus, dear children, the existence of such a Being must be clear, and undeniable. But, is it, also, advantageous to you, to believe in him?

CONSCIOUS that you cannot produce a single plant by your own power, you are, undoubtedly, indebted either to irrational fate and chance, or to a rational Being, for all the comfortable food you eat, and which those animals designed for your sustenance, or convenience, feed upon. How mortifying and degrading would it be, to suppose yourselves entirely dependent on, and unavoidably obliged to, an irrational, tyrannical power, such as fate, or chance? unwisely would you suffer this humiliating and dreadful thought to obtrude itself on your imagination, since there is no foundation for it; nay, common sense, experience, the earth, and the skies unanimously contradict it, and there is no joy and delight, but extreme terror and grief in the idea!

THERE is a Being infinite in power and perfect in intelligence; a Being unerring, all-present, and supremely benevolent. This Being has made, and with equal ease, those thousands of worlds, which I behold in the sky, and these sweet, these comfortable plants. He has made, I say, many of those plants for our use and benefit, and extends to them his unceasing notice and regard, that he may rejoice my heart. O! my children, thoughts like these impress the mind with the noblest sensations, and naturally arise from all things, that men perceive upon earth, as well as in the clouds, in the sky, and throughout the universe. Thoughts like these, make men justly proud of their being the workmanship of so adorable a Being, instead of stupid fate, or chance. In short, thoughts like these give men a well-grounded confidence, that, far before herbs and trees, they are the objects of the providential care of the most-high, the best of Beings; and that, as he hath assigned, to every plant, the most convenient station for its growth, he will exert a still higher degree of benevolence towards men.

RELY, then, upon him, dear children, and firmly believe, that the station, which he

has now assigned, or may assign, you, in future, is, or will be, the best for you, whether you suffer therein by the storms of adversity, or are refreshed by the gentle breezes of prosperity.

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DISCOURSE IV.

ON THE HUSK AND MEAL IN THE GRAIN.

AMONG the infinite number of seeds, those, in particular, which yield food for men, first call for your attention. I mean wheat, rye, barley, and the like.

Two things you will observe in them; the exterior peel, or husk, and the interior, more substantial, part, viz. the meal inclosed in the husk. Let us begin with the husk!

A kind of sap, or juice, ascends through the roots and stalks, into the ear, and is formed, therein, into meal. This being the mode by which the meal must be formed, you will soon apprehend, that great intelligence and circumspection are displayed in the husk.

BEFORE it could ripen into meal, the sap in the ears would have been dried up, by the warmth of the air, were it not inclosed in husks; and after having become meal, this meal, without husks, would have been scattered by the winds, or eaten up by insects; or, by being whirled about, would fall from the straw, and not supply that sustenance, which it now affords. As this is evident, so you will

comprehend, that, to prevent these injurious accidents, the sheltering ears keep off the winds from the milky sap in them, and preserve this sap in husks, as though in closets, impervious to insects, and to the scorching beams of the sun. Thus, you may find, the meal is preserved for the use of men, and that the husk is of the greatest importance to it. It were wonderful, indeed, if irrational fate, or chance, had planned and contrived effects so great, so universally beneficial?

BUT, whatever the importance of the husks may be, might not they have been better modified, so, as to become much more advantageous to men? if every ear had been but one husk, large enough to contain all the meal, which is now contained in many husks, there would be a saving of the materials necessary for the formation of husks. And, these materials assimilated with those for meal, would increase the mass of meal, and be a very considerable gain, if computed throughout the whole globe.

SUPPOSING this, it cannot escape your notice, that so heavy a grain would bend the ear to the ground, and bruise, or break, the tender stalk in stormy weather; that it would, then, rot on the ground, and, al-

so, infect the whole plant; so that, instead of greater gain, we should find our hopes disappointed. Not chance, therefore, but circumspection; not profusion, but the wisest regulation, appear in this instance, also.

HAVE you not, likewise, observed, my children, that there is a kind of meal, either finer or coarser, loose and uninclosed, in almost every blossom, and flower? if it is fate, or chance, that fabricated the plants and the corn, in the field, why did they clothe it in husks, rather than leave it loose, and uninclosed, as it is found in blossoms, and in flowers?

BEEs, and thousands of other insects, feed, as you must have seen, upon the meal in the blossoms, and flowers; but men and domestic animals upon that in the grain. To lock up, and inclose, the first, would be as unkind and pernicious, as not to lock up the latter. In one case, almost every insect would perish by famine, and birds would, thereby, want sustenance; in the other, even men themselves would perish. What a benevolent provision, then, does not this exhibit?

BE the efficient cause of this arrangement whatever it may, it must be adequate to effects, which are so kind, and so

provisional. It cannot, therefore, proceed from insensible fate, or chance.

BESIDE this, you find the meal shut up in husks, as closely as we would put it up in barrels, for transportation; and it is, also, clothed in husks, much better adjusted to its shape, than our garments are to our bodies. If fate, or chance, procure this dress, why do they never spread it loose, and flowing, like our gowns, and robes? how comes it that every husk lies as fast and as close to that meal, as it possibly can, or could, be pressed, by us, in barrels?

THESE husks might, also, have been of the same kind with the shell of a nut, or like the kernel of some berries. As nuts and berries thrive upon the same spot with grain, so the elements for the formation of such shells and kernels cannot be wanting in it. What, then, is it that either prevents these elements from insinuating themselves into the roots, the stalks, and ears, or the air and heat from framing such shells, or kernels, therein?

YOU will discover, my children, that in threshing the crop, a brittle husk, as well as a loose one, must be broken, and that, in this case, the meal must be min-

gled with the straw, and chaff. Thus, husbandmen would lose the fruits of their industry, and men, in general, the most comfortable of their aliments. As this, you easily conceive, would happen, but that it is, thus, happily prevented by the husks, so you have new proofs of intelligence and design, evident in every grain. Thus, we cannot but conclude, that there must be one who formed these designs, who knows the means necessary for completing them, and whose power, is forever, uncontrolled. Thus far, we have adverted to the husk! let us, now, consider the meal contained in it.

No one can suppose that there could be a necessity for including meal in the husks of grain. A juice, similar to that in some berries, might have been formed in the husks, as well as meal; and this the more naturally, as many of the berries grow upon the same spot with the grain; and, indeed, originally it is not meal, but juice, similar to that in the berries, ascending the stalks up to the ear, and into the husks. How is it, then, that the juice in the husks can never be clarified, but must always condense, whilst that in the berries, though upon the same spot, never condenses, but, always clarifies?

SUPPOSE, my children, the husks were filled with any moist substance, instead of meal. The consequence would be, that this moist substance must soon rot, and make the straw rotten, if it should be laid up without being dried. Husbandmen, of consequence, would be under the necessity of drying the whole of their crop, before they could gather it in; a thing absolutely impracticable: for, even supposing the husbandman had as many assistants, and as much time for such a process, as were necessary for it, how could he perform it? could he separate and cut off the juicy ears from the stalks, in order to dry them separately? or, could he dry the ears whilst on the stalks? could this be performed in the open air, in a season frequently too wet, even for the dry and mealy ears? should he pretend to dry them in ovens? how many must he have, and of what size must they not be?

He must, also, have a profusion of wood, which, perhaps, he could not easily be supplied with, or which, if he had it, would soon be consumed. He must have carriages for bringing this wood home, and hired men, to cut it, to heat the ovens, and to compleat the business. If he could effect all this, he must, also, preserve the

crop from fire. But, would it not probably be consumed to ashes?

ADMITTING, which, however, is highly improbable, that none of these inconveniencies, or disappointments, should exist, or happen, and that necessity, the great instructor of mankind, should teach a more expedient method of drying the crop, can you suppose that our condition would be amended? I know, you can not.

DRIED fruits are always relaxed by the air. In like manner the dried grain would suffer, and the more so, the more it should be exposed to the air, when lying in heaps, upon the field, or when deposited in barns. If unthreshed, it must rot, and if threshed, become a wet, concreted mass. Thus mingled with the straw, a great part of it would be lost, and this wholesome and excellent food would be disagreeable to the palate, and injurious to health.

ENDS, therefore, and means, the most noble and beneficial, appear in the meal, as well as in the husks; and to whom, must we ascribe these ends, and these means?

WITHOUT mentioning the power manifested in the bare production of the grain, which might, perhaps, be ascribed to fate, or chance, (since, as you have heard, they are fancied by some to be ve-

ry powerful) I shall only remark that consummate counsel, and that beneficial contrivance manifested in it. Nothing is amiss; nothing is defective; nothing is destructive to the grain. All tends, all operates, to the well-being of men, and really produces it. This, dear children, I shall now inquire into; and this is a subject entitled to your serious reflection.

As it is a powerful operation to produce any kind of grain, so it is a noble, gracious and wise work to produce such grain, as fills our hearts with gladness, and satisfaction, at the same time that it preserves life. If, then, in consequence of the mighty works in nature, powerful, though irrational, fate, and chance, are admitted as their authors, in consequence of the noble, gracious, and wise works in nature, I contend for a rational, noble, wise, and gracious author. And, as grain is visibly produced by the natural powers existing in the earth, and in the skies, I can not but believe in the existence of a rational and benevolent sovereign of both the earth and skies, a power who having ruled from all eternity in heaven, hath graciously governed the earth, also, many thousand years. A sovereign, who is never overruled, but,

on the contrary, overruleth both fate and chance, if such powers can be supposed to exist.

IT is true, my children, I never beheld this sovereign with mine eyes: and, who ever beheld fate, or chance? from works and effects, men infer their author. Had men been less surprized at the mere power conspicuous in the works of creation, they would, no doubt, have perceived that infinite intelligence and consummate wisdom, together with the adorable benevolence, and munificence, which, every where, appear in these works towards all animals. They would have remarked, that not a single plant, not a single grain, not a single seed is left to the precarious disposition of either fate, or chance, but is, forever, cherished by a providential intelligence. What, then, can any one have to fear, or to expect, from them, since, if they exist, they are most evidently overruled by intelligence!

LEARN, then, dear children, learn ever to avoid anxiety and dread, and, forever, rely upon the support of a most benevolent author of nature, who overruleth the elements, and ordaineth all things for the benefit of his creation! you have seen him support the earth, and thousands of celest-

tial spheres; you have seen him direct the clouds in their course, and bridle the most violent storms, and tempests; yea, you have seen him transform the elements, in order to provide for the support and happiness of men, and beasts. How easy, then, must it be for him to support you; to direct you in the way to felicity; to disperse the rising storms, that might dash your bark on the rocks of calamity, and to change adversity into prosperity! he who endues every grain with power to endure the frost, will also endue you with strength for all your sufferings. And he, who leaves not unprovided, a single grain but fills it with his bliss, will not leave you unprovided, but rather replenish not only your tables, but your hearts, with health, with happiness, and joy.

DISCOURSE V.

ON THE VIRTUES OF GRAIN AND VEGETABLES IN GENERAL.

GRAIN is, as you well know, not only food for man, but, also, for the brute creation; and with it we can raise both many beasts and many birds, notwithstanding the great disparity in the nature of these animals. This, dear children, is a fact hardly attended to, by the generality of mankind, though it is highly wonderful, and well worthy your attention.

STRANGE, indeed, would it be, if in boiling meat or vegetables, they should become transubstantiated, so as to lose their own nature, and take that of the pot, or kettle. Such a transformation appears so absurd, that the very mention of it may be offensive to the judicious, and give them an unfavourable opinion of my present understanding. And, yet, such a transformation really, and continually, occurs in nature, even with respect to vegetables, in general, and particularly with respect to grain.

Our domestic birds, for instance, from

the moment they are hatched, may be kept from any other food, but grain, and they will grow by it to the full size of their respective kinds, and be found to weigh twice, or thrice, as many pounds, as they, at first weighed ounces, or grains. Young cattle, dogs, cats, &c. may be brought up in the same way; and man himself may be raised upon grain, or other vegetables. These are facts, which can not be denied; and there are instances, wherein grain and vegetables materially vary from their own nature, and are transformed into that of the different animals, which feed upon them.

Just as the pipes of a still draw the spirit from the grain into a tub, and fill it up therewith, so, through channels subtilely fine, dispersed by the nicest connexions through the whole frame of an animal, the vital parts of the digested grain and vegetables, are extracted by the warmth of the stomach. And so they fill up, extend and expand even the finest extremities of the body. And as the still must be discharged from the dregs, so, by the way of the larger channels in the entrails, the stomach is discharged from the remaining gross and useless parts of the

grain. This being the method by which nature cherishes the living creation, let us consider what should be the consequence.

As men, in distilling a particular sort of grain, extract the same species of spirit, be the still of what material it may, you may suppose, that grain and every other vegetable would produce the same sort of flesh, and leave similar dregs, whether the organs, through which they passed, were those of a bird, or of a beast. It were no less incomprehensible, and wonderful, that grain should be transformed into iron, when distilled in an iron still, or into copper, when distilled in a copper still, than that in the crop and stomach of a pigeon, for instance, grain is changed into the flesh, feathers, bones, and blood of a pigeon, but in the stomach of a horse, or of an ox, the same sort of grain is changed, not into feathers, but into hair, not that of a sheep, or hog, but that of an horse, or ox; and into flesh, bones, blood, and fat, not of a dog, or cat, but only what is natural, and peculiar, to an horse, or ox.

Thus grain, and grass, can produce even the strong, and large bones of an horse, or ox, whilst the weak stomach of a sparrow, can so counteract this power,

as to disqualify it for the formation of a single hair, proper to those animals. Not even at this period of time, after many thousand generations, these animals have been fed upon the same grain, and vegetables; and, consequently, their breed, being the issue of the same food, might have been of the same nature: not even now, I say, can the same grain, and vegetables, produce, in any one species, of animals, what is peculiar to another.

MOREOVER, grain falling into the soil, taketh root therein, and putteth forth stalks, ears, and grain: but entering into the stomach, it produceth feathers, and hair, flesh, and fat, tendons, and bones, marrow, and blood, &c. What an inexplicable kind of chemistry! what an inchantingly magical power! And how far is this power magical? only so far, as it serves the purposes of men, but never where it might oppose or frustrate them.

INSTEAD of gaining new virtues, and qualities, grain communicates its own virtues, and qualities, to the stomach, wherein it lies, and thus the stomach is strengthened, but the grain itself, is weakened, and spoiled. Lying in the bowels of the earth, it acts in another manner.

INSTEAD of communicating its own vir-

tues, it attracts those of the earth, and imbibes its powers, in such a manner, as not to strengthen the spot wherein it lies, but rather to weaken, and impoverish it. Why do not its properties evaporate, whilst inclosed in the warm bowels of the earth, as they evaporate, when confined in a heated still? why does not its substance waste, and moulder away, as almost all other things are wasted, and mouldered, when under ground? Again, why is not grain attractive, and absorbent, in the bowels of living creatures, as it is in the bowels of the earth, and as some vegetables really are; yea, grain itself, when distilled into ardent liquors? what human being, reflecting upon these things, can deny, that all these circumstances are marvellous, at the same time, that they are highly serviceable to all animals, and particularly so to men!

IN the most luxuriant soil, suitable for wheat, you will never find rye, or oats, changed into wheat; neither wheat degenerated into rye, or oats. Powerful, therefore, as the elements may be, they can not operate upon a single grain, so, as to change its properties, into the properties of another, though better fitted for the soil in which it grows. But the stomach, however weak, is endued with the

power of changing the nature of every vegetable; and even that of a young sparrow, can effect, what all the elements can not accomplish.

GRAIN and other vegetables, ultimately, give all their strength to the stomach; yea, they furnish all the materials, necessary for its first formation. And yet, grain, and other vegetables, are always overcome by the stomach, and their own power, must ever yield to that power of digestion, produced by themselves. Inconceivable indeed, yet undeniably true!

To transform a grain of wheat, into a grain of barley, or a grain of barley into a grain of wheat, you would think absolutely impossible. You, therefore, must think it equally impossible, to transform wheat, barley, rye, &c. into stalks, and ears, into bones, and hairs, into flesh, and blood, &c. Why, then, does that transformation happen in natural things, which is the most beneficial, though it may be the most difficult? why rather, does not that transformation happen, which would be disadvantageous, and less difficult?

How is it, also, that this capacity in the grain and vegetables is not confined to a kind of general transformation, but

extends to the various parts and members of an animal; and, therefore, transforms the grain and vegetables, according to the various members of the animals?

For, you will find the flesh on the breast of a hen to be white, though that of her legs is darker; and that of the wings you will find to be tough, though that of the neck, and of the back is tender. In like manner, the liver, the lungs, and the heart, are all different in every living creature. Though constituted of the same food in the bowels of their respective progenitors, yet the different members of the same individual are differently wrought, differently coloured, and differently tasted. All these wonders, you will readily apprehend, can only serve to please the various inclinations of men. Must there not, therefore, be a benefactor of men, capable of performing such wonders, in the continual transformation of vegetables? a benefactor, who is pleased to furnish them with a profuse variety of delicate food, and to fill their hearts with happiness and gladness?

O! dear children, if the injudicious can imagine unintelligent fate and chance to be the authors and governors of nature! do not you so much inquire after the pow-

erful, as after the intelligent and munificent author and governor; after him, who so kindly, and so evidently regardeth men; so well provideth for them, and manifesteth such great beneficence towards them, in those wonderful performances. Let him be the serious object of your researches.

THE effects of power alone, and those of wisdom and goodness, united with power, are very different. When you inquire, therefore, for the author of the two last, let none misguide you to the fancied authors of the first; I mean fate and chance.

I know nothing of either unintelligent fate, or chance; I, therefore, can not acknowledge their power. But, admitting which, however, is not to be allowed, that their power is infinitely great, of what importance is it to men?

UNDENIABLY, great is the power of gun-powder; but will it ever fill the mortar itself, and discharge a ball, or a bomb? a man, a skilful man, too, must arrange the powder, and the ball, or they will never effect any thing. Therefore, even admitting that fate and chance, are infinitely powerful; neither can effect any thing regular, if not managed, and direct-

ed by intelligence. Thus, fate and chance can not have effected that beneficial regularity observable in grain, and in vegetables. There must be one, who ruleth and directeth throughout nature; who overruleth fate and chance, if they exist; who is their Lord and master: a sovereign; God over all.

It is evident, then, that there really is a God over all, whose favours surround us; at whose table we sit, and by whose hands we are fed, so delicately. Unhappy men! who think they sit at a table, which the madness and fury of fate and chance now spread, now overthrow! as for you, my children, you will daily congratulate yourselves as sitting at the table of the best of fathers, and enjoy your salutary repast, sweetened with the comfortable sense of filial gratitude, and of affection.

DISCOURSE VI.

ON THE SEASONS FOR SEWING AND
REAPING.

WERE it not, that by nature some of the seeds may lie in the ground, during the frost, and others may grow, though they have not lain, during the winter, in the earth, men could not have two seasons for sowing, one in the autumn, and the other in the spring. Moreover, were it not for the disparity in the nature of plants, with regard to the time of their ripening, and if, on the contrary, they all ripened at the same time, in a single week, or even in a month, there could not be so long a season for reaping. As this will be clear to you, so it is very remarkable, and it would be absurd indeed, to derive these circumstances, from fate, or chance, rather than from their intelligent, their wise, and gracious author.

INSECTS, fish, birds, and many of the fourfooted animals, which are multiparous, are delivered of their young at one birth; and, a very few instances, originating from peculiar incidents, excepted, their respective young are, always, found of the same na-

ture with each other. Either all, or none of them living in the water; either all, or none feeding upon a particular food; either all, or none adapted to a particular degree of heat, or cold; and all, or none procreating at stated times. This, you may observe, is the case with all other qualities and properties, with which animals are endued.

FROM merely considering the laws of nature, you will, therefore, find it difficult to explain, why seeds, and their fruits are so different. Having a common original; being begotten by the same father, the air, and brought forth by a common mother, the earth, why seeds and fruits are not rather of the same, than of a different nature; either all of them of a strong, or of a weak texture; either all hastening to maturity together, or all lingering in their approach to it?

How this can be accounted for, I can not conceive; but, it would be absurd, indeed, not to grant, that there is a possibility, that all plants should ripen at the same time; and the same power, which prepared them for ripening in this month, might have prepared them for ripening in the next. And even this possibility claims our attention.

For, this concession will, doubtless, be made; that, if there is, in every case, a possibility for either being, or not being; either effecting and permitting, or not effecting and permitting; and, if it is found, that in all these cases, only such things are effected and permitted to be, as must coincide with, and cooperate to, a certain end; then, we must conclude, these things to have been deliberately effected, or permitted, by one, who had them in view, and designed them as the means of accomplishing his ends. It must, also, be allowed, that there is the more reason for this conclusion, the more frequent such effects and permissions are found to be. And, this is the case, throughout all nature, but in this instance, in particular.

RAIN and hail, wind and thunder, tho' they might become fatal to the well-being of men, are directed, and their rage permitted, always under such restrictions, as must render them beneficial to the human race. Though herbs and trees, seed and grain, might have been made so, as to clash, in every point, with the interests of men, and even to deprive them of the necessities of life; yet, you have seen them perfectly harmonizing with, yea, continually advancing, and improving, the good of

mankind. If, therefore, the seasons for sowing, and those for reaping (the objects of our present contemplation) are, also, found coinciding, in the fullest harmony, with these interests, and properly calculated to advance, and increase, the well-being of men, though they might have obstructed the same, or frustrated the benefits which we now enjoy; you have, certainly, new, and less fallible reasons for drawing this conclusion, that the author of nature must be very gracious; must minutely attend to the welfare of men; must designedly direct all things to this very end.

AND, what other effects have these two seasons for sowing, and that long one for reaping, but what perfectly accord with the happiness of mankind, and very eminently advance, and secure it?

By prescribing uniformity, to these seasons, the author of nature would have deprived men of every earthly gratification, which they now enjoy, in the greatest abundance. By it, he would, also, have caused a multitude of sad and fatal accidents, from which men are now exempt, because there is not such an uniformity: this I perceive, and dare to assert.

FOUR persons live by agriculture, for one that is maintained by the practice of

trade, of arts, or sciences. This is proved by the concurrent accounts of the most civilized nations in Europe. Now, as grain and fruits, in general, never remain unconsumed, it is evident, that four husbandmen, industrious as they commonly are, by all their toil and industry in sowing, and in reaping, hardly sow and reap more than is requisite for the subsistence of two persons.

If so, and if the whole industry of four persons during spring, summer, and autumn, or, at best, nearly eight months, can afford no more than what is the common and necessary provision for five persons, how much less would the industry of these four husbandmen have produced in two months only, supposing that nature had given them but one month for sowing, and but one month for reaping? by a very simple calculation, it is plain, that it would produce no more than a fourth part of the former amount; no more than a sufficient portion for one person, and two eighths of that portion for a second. It is, therefore, plain, that three persons, out of five, would have nothing to subsist upon, and one of the remaining two would be provided for during only two eighths of the year.

No doubt, then, remains, but that in the supposed case, from so short a term being allowed for reaping, and sowing, without exaggeration, one half both of men and of cattle, would die by famine. And, consequently, the then remaining half of mankind, being, in the same manner, confined to so short a period of time, would, in the same proportion, undergo the same fate. And there would be no end to so calamitous a circumstance, till the human race should be reduced to so small a number, as might live in the wilderness, being, like savages, prevented from a further increase, either by making war upon each other, or by exposing, and murdering, their offspring. This dreadful calamity, the aggregate of all possible evils, in this our earthly abode, must, inevitably, overtake us, also, if, at any time, the nature of grain should be altered, even but so far, as to occasion it either to ripen all at once, or not to endure the severity of winter, in the frozen ground; or not to grow and bring forth, if not sown before winter.

To produce numbers of plants, and so to vary their nature, as to cause some of them to ripen in one, some in another, and, again, some in a third month;

these in the beginning; those about the middle; and others at the end, of these months, requires six times as much skill, as would produce the same number equally calculated to ripen at the same time. No doubt, then, dear children, but that he, who produced such plants as those, could, also, produce such as these, and produce them with six times more ease. Why, then, was not that, which would be six times the easiest, preferred? is it not because the author of nature is, ever, minutely attentive to the happiness of men? is it not, that, being determined not to permit what might be fatal to mankind, he chose rather to do what was six times more difficult, than to suffer an uniformity, which must have been destructive?

HAVING, thus, seen so formidable a calamity most mercifully prevented; let us, now, advert to the gratifications of our innocent appetites, effected by the same author of all nature, in the same disparity of plants, graciously bestowed! truly, this is a widely extended field, for your most serious, and most thankful meditations! you have only to open your eyes, that you may see the treasures of nature liberally dispensed. You can not,

then, forbear to revere and adore the author of them.

If you suppose yourselves of the number of those who should survive the above mentioned calamity, arising from an uniformity in plants, you would have but little to rejoice at it.

SOWING and reaping being immutably connected, such an uniformity would call even the children from the gardens, into the fields and meadows, for ploughing, sowing, and reaping. Undigged, then, and unsown, the gardens would remain, abandoned to briars, to thorns, and to thistles. Thus, you, would not have the gratification, which so great a multiplicity of savoury, and wholesome garden-fruits affords.

BUT, not to dwell upon the present dispensation, in general, behold the particular mode of succession in it; and you will be touched with delight; for, all is correspondent, all is harmonious, so that you may daily enjoy new gratifications, arising from vegetable productions.

THE grass, in the meadows, ripens first. Husbandmen must, then, mow it, and make it into hay. As this is laborious, and often requires the assisting hands of women and of children, so the best

time is allotted for its ripening. If it ripened earlier, by calling the hands from the cultivation of the gardens, to the meadows, it would deprive us of the garden-fruits; and if later, it would interfere with the reaping of the crops of corn.

BESIDES, the sun-shine begins to be powerful, and the grass is, therefore, now dried more readily. And, as the forests now furnish us with strawberries, so the garden supplies us with fallads, and a variety of early fruits, with which the labourers are refreshed.

THE foil of the meadows being at this season damp, and even wet, the larger fruits of trees, such as pears, plumbs, &c. would cool the labourers too much, and expose them to fevers. Well, then, hath nature reserved these nobler fruits for a more suitable time.

THE hay being made, and all those things done, which immediately require the care of the husbandman, the winter corn, such as wheat, rye, &c. are now grown ripe, and must be cut down, and gathered in. The summer corn is now still green,; but, ripening by degrees, it keeps pace with the labours of the husbandman, and is not fit to pluck, till after the winter corn.

Thus, neither the winter, nor the summer crops are neglected; but this could not have been the case, if both of them had ripened together.

THE ground is more parched with heat, and the rays of the sun are scorching. But the labour of the husbandman is never more requisite than at this time. Yet, I never saw the country people more lively than in the season for reaping. To what must this be attributed? perhaps, to the agreeable and refreshing fruits, which the gracious author of nature abundantly bestows upon them, at this time.

THE lettuce, the smaller berries, and the cherries, I believe, would be insufficient to refresh, under those circumstances, the heated blood of the reapers, and to recruit their spirits. Lo, then, the superabundance of refreshing vegetable productions! green peas, and beans, carrots, cucumbers, plumbs, pears, and a hundred of the like quickening and refreshing fruits, which memory can not recall at once, are now plentifully furnished out of the capacious, and inexhaustible, storehouse of nature. They could never be so wholesome, and so comfortable, as at this period. What an acceptable succession, then, in this mode of dispensation!

AND with all this, behold! the munificence of the Creator by no means exhausted, but graciously continued! in a little while all the beauty of vegetation fades; and all its sweet scents evaporate.

THUS, the flowers, in general, pine away and perish, almost as soon as they bloom. Vain is the care of man to preserve their beauty, and their ardour. Just so it might have been with all the salutary productions, of plants, and trees. But a short duration might have been allotted to them. These productions of the vegetable kingdom, like children of a common parent, might not have had an almost unperishable continuance, any more than the flowers. And yet, a longer duration is assigned to them; and for what purpose, if not to satisfy mankind with plenty?

Now the fields may be reaped, and even the later grass mown; even women and children, may now be called forth from the gardens, into the fields, and meadows; the garden-fruits will not, in the mean while, wither, nor instantly pine away, like the flowers. These fruits may, afterwards, be gathered in, at leisure, and there will be no loss by it. On account of their peculiar, and more lasting properties, no portion of the year will be left un-

bleſſed with the gracious gifts of the Creator. Yet, they might have been ſo fruſtrated as to periſh immaturely.

EVEN the air, partaking by this time, in ſome degree, of the cold of winter, contributes to the preſervation of ſome of them, which one, or two months earlier the heat would have expoſed to putrefaction. Obſerve, then, my children, how all things are ordered for the beſt! the air, and the ſeaſons themſelves, are ſo diſpenſed, as to procure ſtrength, health, and the moſt nourishing and palatable aliments for men.

EVEN the acorns in the woods, the cheſnuts, alſo, and beech-nuts muſt not ripen, and fall down earlier, or later, than they now do, after harveſt, when the froſts come on. Should they fall earlier, they would either take root, or elſe rot, during the then warm days, and thus become leſs profitable to men, even though their cattle, and particularly their hogs, ſhould feed upon them.

As in the earlier months there are herbs, and roots, which cattle and hogs may feed upon; ſo every other, and particularly the better and more durable kinds of food, are wiſely preſerved for the latter months, in which herbs will be wanting, otherwiſe men muſt labour to ſupply this want throughout theſe months.

As, also, in reaping the fields, much grain and whole ears are lost, and weeds obstruct the growth of grain; so the glorious author of nature, unwilling to see men deprived of what he hath given them, and inclined even to repair their faults in the cultivation of lands, maketh up and repair-eth their losses, in causing sheep, and hogs, &c. (which are fond of weeds and their roots, as well as of grain, and whole ears) to pluck them up, and to restore them, in their flesh and fat, to man, so that no loss may be endured.

BUT, if the acorns, and beech-nuts should lie on the ground so early, either the grain and ears, or the nuts and acorns would be neglected, and rot, and, thus, his munificence fall much short of his gracious design.

EVEN if this mast were in warmer weather as wholesome for beasts, as it really is not; and could beasts then as easily fatten by mast, as in colder; yet men would not reap as great benefit from them. To prevent their falling to decay, the beasts must be slaughtered, and, in that case, how could corruption be prevented?

THUS, then, the author of nature undeniably scattereth blessings, after blessings, throughout the whole earth, upon men!

Nothing is permitted, nothing is done by him, but what most perfectly harmonizes with the happiness of the human race. And, although every thing in nature might give uneasiness to men, and oppose their common felicity, yet, every thing is so circumscribed, as to yield them general joy and satisfaction. Surely, then, he designs the well-being of men! surely, he is intelligent and gracious!

MEN are too often dissatisfied with their lot. O! what strong reasons have we not for submission to our Creator? hath he not exerted his wisdom and his power to gratify our appetites, by an unnumbered variety of fruits? have we no part in that profusion of the noblest gifts, which he continually showers down upon men? no share in the choicest productions which every season brings to men?

If we had been born in Greenland, we should rejoice and think ourselves delicately fed, even was the sea-dog our only meat, and its rancid fat our drink. Have not all our countrymen more than this? Without the wholesome vegetables, the whole earth would be like Greenland, and, in this case, every one of us, unacquainted with all our dainties, would be as well satisfied as those people. Too long, there-

fore, and too much have we been accustomed to luxurious diet. The extreme bounty, not the improvidence, of our Creator, maketh us to mourn.

LET it never be so with us, dear children ! the Creator's past munificence ought to inspire us with gratitude, and we ought always to be satisfied with poverty, even whilst we behold his munificence towards others. For sure we may be that he, who thus regards others, will not disregard us, and that the time, will no doubt, come, when his blessings will be showered down upon us.

DISCOURSE VII.

ON AQUATIC ANIMALS.

NOT that you can have any need of more self-evident, and convincing, arguments for the existence of an almighty, all-good, and all-wise Creator, but that you may fix your eyes the more earnestly upon him, and be the more constantly reminded, and steadily delighted, by his infinite excellencies, let us, now, observe the animate creation, as we have observed the inanimate, and begin with those creatures, which live in the waters.

THE better to perceive the wonders of their forms, a fish of the greater kind shall be our standard. But, how are we confounded in examining the extremely nice texture of its gills, fins, and shells, or scales! all is delicately wrapt, yet firmly joined together; all is set in rows, or ranks; all is polished and bright, and of a composition, which the highest and happiest efforts of human genius are insufficient to produce, from all the waters in the ocean. Was there but one fish in all the waters of the globe, we could not think it the work of irrational fate, or chance; we must suppose it the work of an all-wise, and almighty hand; so wonderful is its frame.

THE eyes can not take in the numberless delicate parts of a fish, such as those in its flesh, shells, gills, and fins. We must, then, renounce the distinct perception of that compound of exceedingly fine web and embroidery, and confine our attention to the grosser, and more distinguishable, parts, viz. the bones.

Lo! then, dear children, I have boiled this fish, and taken the flesh off its bones; and the skeleton of it is before us! what a wondrous frame! how accurately are these bones fitted! how turned, as if formed on the lath! how nicely joined, and connected!

To discover whether this can be the workmanship of fate, or chance, let us disjoint these bones, without breaking them, and afterwards try whether they can be properly arranged, again.

Now, then, these bones are disjointed. Throw them on the table, and try whether you can arrange them again! Vain thought, indeed! You can not; neither can I, so as to restore that orderly relation which they had in the living creature. I, certainly, can not arrange them all in their natural order, though I have seriously attended to it, that it might be impressed upon my memory.

SINCE, then, my memory could not retain the orderly relation of such a multiplicity of bones, nor my discernment restore the same, let us lay by the greatest part of them, and reserve only those of the spine ! try, then, dear children, whether you can join these few only ! yes, these you can, and so can I. But all your attention, as well as mine, is requisite even for this. By whose attention then, were these very same bones joined and arranged, in the water ?

NOT to judge rashly, we will put these bones into a box, and, then, throw them upon a table, and, afterwards, replace them into the box, observing in what order they fall, either upon the table, or into the box ! observe, now, how they fall ! can you perceive the skeleton of a spine ?

TEN thousand times, yea, through your whole life, you may throw these bones either upon the table, or into the box ; yet, neither fate, nor chance, will ever give them that orderly disposition, which they had from nature.

BONES which, in nature, lie nearest to the head fall from our hands nearest to the tail, or to the middle of the body, and where nature hath placed them in a single row, they now lie before us, without or-

der, and in a heap. There is no order to be perceived among them, as they lie now; no shape resembling a spine. Nor is that disorderly manner in which they fall ever twice the same, but always different. Though we are fully certain of all this, yet, let us hear the language of common sense upon such occasions!

LET us, therefore, arrange these bones properly, that they may resemble the spine of a fish! let us, then, invite to our house, our friends and neighbours; yea, all the people of the country, and tell them, that these bones fell in this order upon my table, when I inadvertently threw them out of a box! or, let us endeavour to persuade them, that these bones always fall in the same order, in which they were laid upon the table!

CAN you suppose that my best friends would believe such a tale? do you not apprehend that they would think it an insult, offered to their understanding, and treat me very contemptuously, if I should persist in asserting so gross a falsehood? these, then, are the dictates of common sense.

ABSOLUTE necessity, and unchangeableness, being the effect of fate; and irregularity, and disorder, the issue of chance; whilst order, and conformity, are the ope-

rations of intelligence; common sense must ascribe our orderly disposition of these few bones neither to fate, nor to chance, but to some intelligent power. Nay, common sense will be so far from admitting such order to have been the effect of fate, or chance, that it would deny it, though the whole country should contend for it. Here, then, we have the plainest decision of common sense.

AFTER having, ourselves, thus, examined whether fate, or chance, did, or could, frame such a spine, and having found they could not; having consulted common sense, and heard they can not; having, also, experienced, that even we, ourselves, by lucky inadvertency, could not, but that our extreme attention, and discernment, were absolutely requisite thereto: what must be our judgment with regard to fish, in general?

MAN hath an unshaken, standing, table, whereupon he throws the bones; but, nature hath an unsteady, undulating, element, for her operations. Man is occupied with the few great bones of the spine, nature with all the bones, and, beside them, with that multiplicity of scales, fins, gills, and all the innumerable constituent parts of the flesh, together with the entrails, &c.

Man only attempts to frame the spine of a single fish; nature the whole bodies of thousands, nay myriads, of them; yet man always throws the few bones into disorder, and confusion, when, on the contrary, nature always places them in the completest order, and arrangement. What does this prove, and what must we infer from it?

CAN the orderly disposition of a few bones, upon a table, require man's greatest attention; and must that incomparable order, observable in millions of particles, require none? common sense can not attribute such mean and insignificant order, upon a table, either to chance, or fate; and shall it attribute that inimitable arrangement in the undulating water to any such agent? although, in our arrangements, we are directed by extreme attention, yet we know not how to bind, to connect, or to cement, even a few bones; but, nature connects, and cements them, indissolubly, and incomparably: must not nature, therefore, be directed by supreme intelligence? not only the whole species, but every single fish, must be the workmanship of a Being, incomprehensibly intelligent. Every single fish must have been an object of particular notice, and regard,

of the glorious Creator. This conclusion, dear children, must, inevitably, be drawn from these premises.

SOME, I believe, will argue, that as the elements of the fish were already joined, and inclosed, in the eggs of a fish, there was no possibility for their being disjoined by the water, and that, by these means, all that multiplicity of different parts in them must remain united, in that most orderly relation into which they were brought first into the eggs. But, to this, you may reply, that it is altogether foreign to what has been advanced.

AN orderly relation, plainly, and really, exists, whether it be in the eggs, or originally derived from something else. Neither upon the table, nor in the box, can fate, or chance, frame the spine of a fish. And, whatever attention is required for framing a body upon a table, the same is also required for its formation in a box, or in an egg.

THE extreme smallness of the innumerable eggs, when they first appear in the female fish, and the imperceptible nicety in the web therein, in combination with the providential care in guarding and defending the body of the young, in the eggs, as if they were inclosed in cells, be-

ing duly considered, support my assertion, and give undeniable efficacy to it?

THERE is not a single fish, then, that is not formed by a Being, profound in knowledge. And, from the very same reason, there is not a single living creature in all the waters that is not framed by a Being, incomparable in power, and incomprehensible in intelligence.

OBSERVING this, and recollecting that all the waters in the ocean, in rivers, and in brooks, abound with an infinity of fish, crabs, insects, &c. considering, also, that, in this multiplicity of different species, every species, yea, every individual, has a frame, not only particular, but also convenient, for its subsistence; and, consequently, reflecting upon the impossibility of its having been framed without the most special providential care of a most sublime and rational Being, we are entirely lost in an immensity of wonders, even of the aquatic works of the Creator.

O! ye fish! O! ye innumerable inhabitants of the waters, of whatever species! how are you all nobly eloquent in the incomprehensible excellencies of your glorious Maker! born in this or that pond, or brook; on this or that side of a river, or in the ocean; in this moment,

or in a former; in legions, or in millions of legions, not a single one of you, but loudly proclaims, "I, also, was formed by an almighty and all-good God! the all-good and all-wise God called me, also, into existence, and preserves my life! by the wisdom of the sublimest of Beings, it hath come to pass, that what would have been death to other animals, even this dreadful element of water, hath given me life, and happiness."

ARE fish and the other aquatic animals, preferable to us? shall these glory in their being the workmanship of the best and highest of Beings, and shall we think ourselves the miserable work of inauspicious fate, or chance? from the height of his infinite exaltation, shall the Most-High look down with complacency into the unexplored depths of the ocean, and not into this corner of the earth for us, and all over it for the children of men? since all the waters of the sea can not drown its inhabitants, nor the rage of the waves destroy their tender offspring, should we be meanly drowned in afflictions, or any of the sons of men, irreparably, and innocently, dashed against the rocks of despair? Never despond, O! my children! water, that formidable element to men, yields life and

comfort to those animals. But, even death will not be eternal death, but life and bliss to you, as well as to your fellow-men!

You were lifeless, for many thousand years past. In your mothers womb, you were afterwards inclosed. But, even there you received life and strength, when you were devoid of both of them.

DOUBT not, therefore, dear children, that, after being again deprived of life, and strength, and buried in the earth, you will be raised up to life and bliss, again!

DISCOURSE VIII.

ON BIRDS AND ESPECIALLY THEIR
FEATHERS.

WHAT you learned from aquatic animals, you may, also, learn from birds. From their bones you may, also, form skeletons, but, in forming them, you will never find that either fate, or chance, can have given them that order and harmony, which is natural to them. As you were startled at the observations which you made on the wonderful structure of those creatures, whose way is in the waters, so you will be much more startled at these which you may make on birds, which wing their way through the air.

FLESH and bones, tendons and entrails, though greatly diversified, yet are common to both these classes of animals. And the inimitably fine texture in the gills, fins, and scales of a fish being fully equalled by the inexpressibly nice workmanship in a great multiplicity of feathers, you must regard every bird, not less than every fish, as the work of an all-wise and almighty hand.

BUT, as the naked eye of men is not

keen and sharp enough to distinguish in the wondrous frame of the scales of fish, the extreme fineness of the structure, and, as nature hath displayed an analogous fineness in the feathers of birds, distinguishable even to a naked eye, so you must give these latter the preference. And, while you observe their structure, you will most certainly be struck with astonishment, and, by an irresistible impulse, confess, that not a single bird; nay, not so much as a single feather exists, that hath not been, in a very especial manner, the object of the notice and regard of a Being, whose intelligence must be infinite, and whose power must be unlimited, and omnipresent! the contemplation of even the meanest and smallest feather, I say, confirms this truth.

In every feather you may distinguish the quill, and those little and tender feathers, or ribs, which grow from both sides of the quill. Having unfolded some of these ribs, and, then, holding the quill and its ribs between the eye and the beams of the sun, or any other light, you will find not only a great multitude of such ribs, but, also, an innumerable quantity of the finest fibres, on each of these ribs, and discover the whole to be but a compound of similar fibres and filements, so

regular, and extremely delicate, as to exceed expression. Behold, for instance, this quill of a goose! consider of how many ribs it is composed, and how many hundreds of smaller members, or filaments, constitute each rib. Who, then, must have constructed and connected them, with so much order, and exactness?

Lo! what an excellent polish, both inside and outside! what conformity and design in the direction of these ribs, on both sides of this quill! in what masterly proportion, in what even rows are they arranged! how amazing, also, the regularity of their innumerable teeth, exactly calculated for the opposite notches! in this manner every feather is framed. Though greatly different in the different species of birds, yet, in the same species it is ever perfectly the same, ever charming, ever wonderful. It must be seen; it must be properly observed, for otherwise it transcends belief, and expression.

ALL these feathers are coloured; and there is no colour under the sun, which is not to be seen in them. All the birds of the same species are like so many pictures, perfectly resembling each other, as if copied from one and the same original. Thus, the painter of nature hath drawn them with his pencil all alike.

IN the works of the ablest painters you observe the colours, if exposed to the air, fade away, and their brightness perishes. But to every feather a brightness of colour is given, which all the water in the clouds can not wash away, nor the air, or the beams of the sun ravish from them.

ALTHOUGH you might, with propriety, inquire, from what materials such feathers and their hues were prepared? omitting this and many others questions, you may now only inquire, by whose finger such an innumerable quantity of feathers have been formed and painted? by what subtle tools, and skilful operations, are the ribs so nicely notched, and exactly arranged?

FROM what you saw, relative to the few bones of a fish, and from what you, then, learned from common sense, you must conclude, that neither fate, nor chance, can effect such order and conformity. Is it possible, then, to consider a feather, and not to acknowledge it to have been framed by a power infinitely intelligent? thus far, dear children, the feathers, if singly regarded, convey instruction. Let us, now, contemplate them in full assemblage, as they are placed in the bodies of birds!

H

THOSE birds which are endued with appetites for food, which flutters in the air, or swims in the water, must have the means of flying about in the air for such food, or of swimming, or diving, for it in the water. Again, birds exposed to dangers, without strength to overcome them, must have the means of avoiding, or escaping them; otherwise it would have been barbarity and cruelty to have created them. As this would be true, so it is, likewise, true, that he, who created birds under these circumstances, and hath really fitted them for their circumstances, can not be reputed irrational, or barbarous. On the contrary, he must be acknowledged, to be the more kind and attentive to their well-being, the more his provision for them is universal and adequate to their necessities. But, you must consider the different kinds of birds, and their different feathers, before you conclude, whether such an adequate, and universal provision hath really been made! behold! how generally the feathers on the bodies of birds incline from the head towards the tail, and scarce a single one from the tail towards the head! behold! how they grow strong and lengthy on the wings, and on the tail, but weaker and shorter on the trunk, breast,

and neck; and still shorter and softer on the head.

HOWEVER diminutive and bony the extremities of the wings are, yet they yield the longest, largest, and strongest quills, while the fleshiest and fattest parts of the body, produce the shortest and tenderest. How can you account for facts so regular, and curious?

It may be said, the pores in the bones of the wings and tails, or in the flesh, are of such a nature, that either long and strong, or short and tender feathers must necessarily proceed from them. You may ask, why must these pores always be such? and why must the elements of the species always fall into the eggs, and proceed from them in such an order, that this difference must exist in the pores, and such pores, and no others, be derived from them?

AN egg may well be compared to a box. As the bones of a fish will never regularly fall into a box, whence comes it, that all the above mentioned elements regularly fall into the eggs, and, in like manner, proceed from them?

It is not utterly impossible, that the elements for the formation of flesh and bones, as well as of pores and feathers,

should intermix; that, in consequence thereof, some of the feathers should retain their direction from the head towards the tail, but that others should incline from the tail towards the head. It might, also, happen, that the feathers of the wings might grow on the neck, and those of the neck on the wings, did the elements for supplying their pores fall on these parts. But, if this were the case, judge yourselves, my children, what deformity would occur in the appearance of a bird? judge, whether rain could trickle, or snow be shaken, from its body? would they not rather penetrate to the skin? judge, whether birds could then be defended from wet and cold? whether they could thus escape their enemies, by flight? whether they could fly about, for prey, and swim upon the water for it?

THESE fifty years, I have lived upon earth; have seen a vast variety of birds, and have heard of many others; but, I never saw, or heard of, any in which even a single feather was inconveniently placed, by nature: so universal is the due arrangement made by the Creator! where, then, can you look for consideration, for provision, for kindness, and for carefulness, if not here? how supremely rea-

sonable, and benevolent, then, must the Creator be?

OBSERVE, for instance, the feathers of a hen. Are not these different from those of a duck, or of a goose, and these, again, from those of many other kinds of birds? you will, ever, find the feathers stronger and more solid, when the bird, the goose for instance, is not only to be defended against the rain and the cold, but, also, designed to swim upon the water; and less strong, or not so solid, when the bird is only to be protected against wet and cold.

THE longer, and the more subtle, they are formed, the heavier is the bird, or the greater lengths, or heights it must fly, for its prey. Not one of the feathers of a hen is to be found amongst those of a goose, nor one of a goose amongst those of a hen. Such is the rule with regard to these; and the same is, universally, extended to every other kind of birds. Can you, then, remark this rule, which is observed in every feather, and yet think that any of them are unnoticed by him, who alone could establish a regularity so general, and so beneficial?

THOUGH it may seem to some a plain

thing, that food should be converted into eggs; yet it can not seem so, that birds must proceed from those eggs; and feathers of various kinds be produced by the very same eggs; long and strong for the wings, short and soft for the breast, and head. It is impossible to explain the reason why these feathers should always have a direction from the head to the tail, or why they should always be just as white, as black, or otherwise coloured, as their respective progenitors; or why the hue for the female is prepared in this egg, and in that the hue for the male? we, certainly, can not account for these circumstances but by attributing them to the disposition of an incomprehensibly intelligent Being, who knows, how to effect his own wise and glorious purposes.

If you should happen, to find painted in my bible the figure of that dove which once descended from heaven at Jordan, and on looking into another book, you should see the same representation, and, then, looking into all the rest of my books still find the same bird exquisitely painted, and in the same colours, to what would you attribute it?

STRUCK with the exquisite resemblance in all these pictures you, certainly, would

not go to a mad-house, to inquire, for this able painter, amongst the lunatics there. Nor, yet, having observed the exact conformity in all the pictures, would you inquire after two, or more, painters. But, you would, undoubtedly, inquire after one painter, and that one, too, the ablest of the profession, because of the exact likeness of all the drawings. This may serve to teach you, dear children, what you ought to do on observing the works in nature, where you see in every nest, how every bird is admirably painted, and is, ever, like the rest of its species.

To attribute such performances to blind fate, or chance, would be much more absurd than to look for the painter of those doves in a mad-house, and, seeing their exact conformity, it would be equally absurd to inquire after more than one.

SINCE, then, in the whole realm of beings, but two powers are supposed to be capable of such great performances, the one of them an imaginary, irrational, and unskilful fate, or chance; but the other of them, a most intelligent Being, who is called God; you can not apply to that, but must apply to this Being, as the only painter of all the innumerable, and highly finished pictures in nature. You

ought, therefore, freely to confess, that this very Being maketh not only the birds themselves, but their feathers also, as well individually as universally the objects of his regard.

EVEN the smallest bird is clothed, and provided for, by the supreme Being. It is enabled to procure its food, and to avoid dangers. Can you, then, be neglected, by this supreme Being? have men no humble claim to his protection? no faculty for the attainment of the necessities of life? no strength and ability for avoiding dangers, or for overcoming them?

IF you should ever, inadvertently, admit these ideas; yet, never despond! could birds that would not fly about, or if they flew about, were neglectful of their prey, justly complain of want of food? perhaps, therefore, and most probably, it is not want of natural strength and ability in men, but either neglect of industrious and adequate exertions, or bad habits and mistaken opinions, unhappily contracted in youth, which have occasioned their present wants. If you forsake, and much more, if you shun such habits, and errors, you have no great cause to fear that you will ever want sustenance. Ever, bear this in mind, dear children; but, if all should prove of no a-

vail, it will, then, become you to acquiesce in the will of him, who, being attentive to a single bird, yea, to a single feather, is, surely, attentive to you, and to your well-being. He, who has, certainly, regarded the smallest feather of a bird, hath, doubtless, numbered the very hairs of your heads; also, and, without him, one of them shall not fall to the ground.

DISCOURSE IX.

ON THE BILLS, NECKS, THROATS AND
FEET OF BIRDS.

IT can not escape your notice, dear children, that there is a difference, not only in the feathers and exterior appearances of birds, but, also, in their interior frame: a variety in their flesh and bones, in their blood, and nerves, &c. so great, that it is not in my power, and, perhaps, not in the power of any other person, fully to explain, or investigate it. Yet, as this variety, itself, is clearly perceivable, I shall, for a moment, direct your attention towards it, and, especially, to that which is conspicuous in their bills, necks, throats, and feet.

A hen, for instance, is provided with a bill different from that of a duck, or goose. Its neck, too, is not so long as theirs, and the feet of the former have not the least resemblance to those of the latter.

GEESE, as well as ducks, hens, and some other birds, are furnished with crops, for the reception of their food; but others have none; their food descending directly into their stomachs.

BESIDE this, you will observe, that the-

bills of chickens, ducklings, and goslings, perfectly resemble those of their respective kinds, but are entirely different from those of young pigeons, sparrows, and other kinds of birds. To what can those evident differences be attributed?

DID not these differences always occur, or were they unfavourable and injurious to the birds so distinguished, you might attribute their existence to the stupidity of fate, or chance. But, seeing them universal, and finding them eminently conducive to the well-being of these birds, yea, necessary for their very support, you can not but deduce them from a wise and beneficent Being.

THE moment a duckling, or gosling, is hatched, it longs for the water, and leaps into it boldly; while a chicken, hatched by the same hen, is afraid of it. No doubt, then, the author of nature hath implanted very different instincts in these birds, so, that those eagerly take to the water, as their proper element, but these are afraid of it, and keep to the ground. Behold, then, how harmoniously these different instincts, and the frames of these creatures are connected!

If a hen were endued with the instinct for water, and should fly into it, and peck for her

prey, her sharp-pointed bill, and short neck, would prevent her seizing it; and as she could not row herself with her feet, her feathers would imbibe the water, and she would soon be drowned. In like manner, a goose, or a duck, with the instinct of a hen, would be equally helpless on account of their bills, as well as their necks and feet, not being adapted to that instinct.

If, also, a hen with her natural instinct for pecking and scraping the ground, in quest of scattered grain and worms, had a bill, neck and feet resembling those of a goose, or duck, how poorly would she live; nor could she collect a sufficiency of food for so large a family as she commonly has? but, the bills, necks and feet of all these birds are formed in the most perfect harmony with their respective instincts. Their Creator must, therefore, have had in view, and compared, both these different instincts, and the organs for satisfying them. Their Creator must be not only all-powerful but supremely intelligent: and that the more necessarily as this harmony is by no means confined to hens, ducks and geese, but goes farther, and comprehends every kind of birds, and every individual of them, without a single exception.

To a dove, and an hundred other kinds of birds, the bill, as well as the claws, of a vulture, or hawk, would be as fatal as the bills and feet of doves would be to hawks. With such bills hawks could never tear their prey to pieces, and with such feet, they could never carry it to their brood. Not a single grain could a dove take up with the talons or crooked bill of a vulture, or carry it to her young.

If, therefore, it was in your power to give any bird a different bill, neck, or claw, you should not do it. For, you would always find, that the poor creature would live less comfortably; would be exposed to much greater dangers, than it was; and be more in want of food; yea, amidst all the superabundance of food in nature, it would miserably perish by famine. I can assure you, with the confidence of truth, I have always found not only the feathers, but all the other parts and members, of birds most exactly calculated for their benefit, and admirably harmonizing with their instincts, and pursuits. All, who study nature agree in these truths, and, no doubt, you, also, comprehend them.

IMPOSSIBLE as it is for a flock of chickens, ducklings and goslings to be fed,

like young doves, by their dams, which, in feeding them, are unassisted by their respective males, it would be painful, indeed, to see hundreds of them eagerly opening their mouths for food, yet always suffering with hunger. How pleasing is it, therefore, to see all this prevented by the author of nature, who hath made these birds devoid of that instinct, which would compel them to open their mouths, and by which they must infallibly perish. How pleasing is it, to see them freed from so many weaknesses, which are common to other young birds, in their bills, as well as in their whole frames.

BE attentive, dear children, to the young of the various kinds of birds! behold! how chickens, ducklings and goslings, at every trifling alarm, run to their dams, for help and protection, though they never expect to be fed by them. Behold! how they are no sooner hatched, than they have not only the instinct, but, also, the necessary strength, for running, or swimming, pecking up, and eating, what is suited to their nature. From whom, then, do these creatures derive this instinct, and this strength? can you deny, that there must be an author, who, unwilling to expose them to needless sufferings, hath

both taught and strengthened them? who must, therefore, be circumspect, and supremely gracious?

BUT, see, it is not so with pigeons, and some other kinds of birds. With them the case is very different, yet not less evincing the wisdom and benevolence of the Creator.

THERE is always an admirably perfect and permanent proportion observed between the procreating power of birds, and the hardships the old ones are exposed to in procuring food for their young. There is, also, a wonderful and general instinct for pairing in those birds of whose young man does not take the care upon himself; and, in such cases, the male is always inclined, by instinct, duly to assist the female in procuring food. But, what is still more wonderful, the old ones are inexpressibly lively and cheerful during the time they feed their young, however troublesome the care of them may be supposed to be. The birds are as fond of their brood as a tender mother is of the infant at her breast: wherein the unspeakable wisdom and kindness of the Creator is, again, manifest.

HAD young pigeons, and other wild birds, the instinct of a chicken, they would

leap out of their nests as soon as they are hatched, and, thus, their bones would be broken, and their bodies fall a prey to every enemy.

PAINFUL as it may seem, at first sight, for the old ones to feed their young, yet, it is not really so. On the contrary, it would be so to them, had their young been endued with the above mentioned instinct. The male, too, partakes with the female of the labour of feeding the young. Thus, the trouble of either is inconsiderable. It must, further, be observed, that the number of the young is always in a just proportion to the plenty of provisions prepared for them. And, as instinct causeth the old to wish for such an employ, so they, evidently, rejoice in it.

EXAMINE the bills of the nestlings, and you will find, what might have been troublesome both to them, and their parents. Were the bills of the young, which are fed by the respective old ones, similar to those of the old, that is, narrow, hard and sharp-pointed, the young could not take in their large bills. Thus, the greatest part of the food must drop out of their bills, and be lost. Besides, in that eagerness, which is natural to the young, they would be apt to run the sharp-point-

ed nibs of the old ones, when feeding them, into their own palates, and wound themselves, or else they might run their own sharp-pointed nibs into the heads and breasts of their feeders. In this case, the wounded young would perish, as the old ones would grow averse from feeding them. You might, then, say, that this arrangement was troublesome, indeed. But, to return to the unspeakable kindness of the Creator.

BEHOLD ! how exceedingly broad and large are the bills of the young birds, which are fed by the old ; and, at the same time, how weak and totally different from those of their parents. Whilst all other parts of their bodies expand by nutrition, how wonderful is it that the bills should shrink !

LARGE and broad as these bills are now, the young can readily take in the food, brought them by the old ones, and, as instinct throws their large mouths wide open, so they may be filled with food, without their nibs so much as touching the heads of the old ones. Their mouths, also, are too broad and too expanded to permit the sharp-pointed nibs of the old ones to pierce and wound their palates.

Beside this, the bills of the young are too fleshy and too weak to wound the heads of the old. Truly! great, wise, and benevolent, are these arrangements; how much more, then, must their author be, what, indeed, his works declare him to be, great, wise, and benevolent?

It is, also, remarkable, dear children, that some birds are provided with crops, and others are not. Wherein we have another instance of the providential care of the great author of nature.

BIRDS which live upon the buds, or fruits, of herbs and trees, or upon insects, can easily procure themselves plenty of food, and a table is, almost every where, spread for them, so that they can eat, when they will. It would, therefore, have been unnecessary, if not absurd, to have provided them with crops for the purpose of carrying their food about with them, since they can have it every where, and at any time. As their food, too, is very light, how could it satisfy their appetites if it were first macerated in their crops? the same is to be observed of the carnivorous birds, or those birds which feed upon flesh. As flesh is weak, it needs not this preparatory maceration, and as the carnivorous birds can carry the necessary provisions for them-

selves, and for their brood, much better in their talons, crops under their throats would, perhaps, be prejudicial, rather than serviceable. Examine, then, dear children, whether these kinds of birds are furnished with crops, or whether the author of nature has formed them all without them?

IN like manner, with regard to other birds, all is for the best. Some feed, impelled by instinct, upon fish and frogs, without being furnished by nature with bills, or talons, like those of the carnivorous kind, for separating, and for tearing, their food, into pieces, or for carrying it with them. Consider, therefore, whether such birds could feed upon such creatures, conformably to their instinct, if they had no bag, or crop, under their throats, for the reception, and successive maceration, of such food! and, then, tell me whether he who hath furnished them with crops is, or is not, a providential Being.

BUT, with respect to grain, as it is hard, and as some sorts of it are sharp-pointed, it would naturally produce pain and inconvenience if it were immediately lodged in the stomach. And, as grain swells when it lies in a moist place, so it would render the stomach too turgid if it were

immediately placed therein, and the poor bird would become squeamish, and unhealthy. How greatly, then, ought you not to admire the beneficence and care of the author of nature, who hath graciously provided all those birds which live upon grain with crops, for the chief purpose of softening the grain in them, and, then, gradually conveying it into the stomachs, for no other reason but to prevent their pain, and disease. How can you forbear falling down, with me, at the feet of so glorious a Being, and adoring him, in the deepest humility of mind!

MOREOVER, this glorious Being hath implanted in many of those wild birds which can not find their food in the winter, an instinctive impulse to seek remote, or foreign, climes, where they may meet with the necessary food. Neither does he neglect others, or leave domestic birds, which are devoid of that impulse, unprovided for. Extending his unbounded regard to all, he hath not disabled these from performing so prodigious a flight, without rendering it unnecessary for them, by supplying their wants by other means, which manifest, that he has considered every circumstance of their nature, and situation.

IN the cold and snowy seasons men will not attend to domestic birds, at every hour. Scarcely will they spare a few moments twice a day, for feeding them. If, therefore, these creatures could eat no more than their little stomachs can contain, they would, then, almost starve with hunger, and their natural capacity for a numerous increase would be thereby diminished.

IN order to prevent this, their Creator provideth store-houses for them in their capacious crops, and maketh them, at the same time, much more useful to mankind than any other birds, whether we consider their numerous eggs, or their excellent feathers. Thus, you will find, dear children, that these birds are enabled to store up, in a few moments, as much food as the preservation of their lives, and their procreative powers, require; you will, also, find that the selfish race of men are induced, from motives of interest, to take some care of them, and that a great deal of men's precious time is thereby saved. Thus, there is, evidently, a supreme Providence, who preserveth these birds; who kindly filleth them with good things, and who maketh them joyful, even when, in the course of things, they might have been neglected.

As far, then, dear children, as your eyes can reach, and as far as your understanding can comprehend, there might have been numberless inconveniencies, vexations and sufferings attendant on the whole feathered race; and, there was no need of any extraordinary power, or a special exertion of power, in order to produce them. There was not need of any thing, but want of intelligence, of circumspection, and of benevolence, in the author of nature. If he should cease to form that beneficial variety in the feet, the necks, the bills and the throats of birds; should he create every kind with feet, necks, bills, and throats, perfectly alike, the whole feathered race would be miserable, and their appearance frightful and disagreeable to men.

How, then, is it, that this regard, this circumspection, this benevolence, never cease? that they are so continually, so universally, active? forever designing, forever effecting, the prevention of innumerable sufferings, but never causing them in any? can a more reasonable and palpable cause be assigned for it, than that the author of nature is not only omnipotent, and his power omnipresent, but, also, supremely intelligent; that he is circumspect, and incomparably gracious? the

author of nature, therefore, though mighty and omnipresent, yet, exerts his awful qualities in the most exact conformity to wisdom and benevolence, so, as not to afflict, and to smite, but, always, to favour, and to bless, even the smallest bird of the air.

NEVER, therefore, dear children, give way to earthly grief, and sorrow, but, always, reverentially rejoice in the omnipotence and omnipresence of the Creator of all things, who is the father of wisdom, and of grace!

How great, how various, and how unexceptionable, is his beneficence! which of all his creatures hath need of any good that he hath not provided for it: what hath it to fear, that he hath not given it means to escape from? as far as is consistent with the general system of things, he provideth cures for their complaints, and he watcheth over them, continually.

THEREFORE, when you see any of the creatures rejoice, mark the benevolence of the Creator, in their joy. But, if you see them fall a prey to their enemies, do not, therefore, mistrust the Creator's incontestible benevolence. No trifling incident, no partial evil, can disprove the be-

nevolence of the Creator, so universally, and so incontrovertibly, manifested throughout all nature. The power and kindness of the glorious Creator hath, no doubt, remoter boundaries, than are exposed to the sight of mortals. Unaccountable, indeed, would be our absurdity, could we wish to restrict the infinite power and benevolence of the Creator to our narrow conceptions.

ENLARGE, then, my children, your conceptions of these infinite qualities, as much as you possibly can, and, be assured, you will not err in this! for you will hardly think yourselves less valuable in the sight of the glorious Creator, than you see even the smallest bird to be!

BEHOLD! how he hath elevated your faces towards heaven, as if to point out that there the best things are offered to your acceptance: how unlike the beasts which are, ever, prone to the ground! A wide survey, therefore; a survey far beyond the narrow limits of this globe, is evidently designed for you. Do not, then, contract this glorious prospect, by a voluntary short-sightedness, which will cause you to overlook the favourable situation in which you are placed, by your Creator.

You have learned, that there are other

Spheres, Learn, therefore, how you may
repair to the best of them; there, by the
infinite grace of the Creator, to dwell in
unspeakable and unceasing happiness.

YOU have seen how different the
inhabitable variety in the world, the
rocks, the seas, and the air, the
you must know, that there is, also, a
great difference in them, relative to the
power of producing, and their utility
for giving, something their most, and not
different from one country to another, in
their habits of the soil, and in the
highly remarkable, and instructive
As, by the common laws of nature,
the greater and more numerous animals are
in almost every respect, suited with the
greater strength and power than the more
tender and smaller species, it would be
reasonable to suppose, that the birds and
strong birds of prey, such as hawks, fal-
cons, eagles, &c. should be armed with
a penetrating power far beyond that of
larks, quails, and particularly domestic
to let you, the contrary is eminently the
case.

DISCOURSE X.

ON THE POWERS OR PROCREATION IN
BIRDS; THEIR INSTINCTS FOR PAIRING,
BUILDING THEIR NESTS, AND MIGRA-
TING.

YOU have seen, dear children, the remarkable variety in the feathers, bills, necks, throats, and feet, of birds. But, you must know, that there is, also, a wonderful difference in them, relative to their power of procreating, and their instinct for pairing, building their nests, and migrating, from one country to another, at certain seasons of the year; a difference highly remarkable, and instructive.

As, by the common laws of nature, the greater and more nervous animals are, in almost every respect, endued with far greater strength and power than the more tender and smaller species, it would be reasonable to suppose, that the bold and strong birds of prey, such as hawks, vultures, eagles, &c. should be endued with a procreating power far beyond that of larks, pheasants, and, particularly, domestic fowls; yet, the contrary is uniformly the case.

SOMETIMES but one, generally two, and very rarely three eggs are to be found in the nest of a hawk, or any other kind of bird of prey, although there are many in the nest of a lark, partridge, duck, domestic hen, &c. This, as it is an evident restriction of the common law of nature, so it can be the act of no other than the sovereign Lord of nature, who can alone restrict the same. But, as in this restriction, he plainly manifesteth his will, his pleasure, and his design, we may learn therefrom, what his will is, and what are his designs.

LET us, then, dear children, devote our attention to this important object, and, for that purpose, compare a hen, and a female hawk.

ALTHOUGH there is a vast difference between a hen and a female hawk, in point of strength, yet the hen will lay sixty, or an hundred, eggs, in a year, and hatch twelve of them, sometimes twice in a year, whilst the sturdy hawk can lay but one, or two, or at most three, eggs in a year, and these scarcely so large as those of a hen. Superior in every other respect, why is not the hawk superior to the hen in this particular? but, even a hedge-sparrow, or a wren, excels the hawk in the pro-

creating powers, however bold and formidable she may appear. Who can account for such a peculiar deviation from the common laws of nature?

CONTRARY to this regulation, let us suppose, that a procreating power equal to that of a hen, had been bestowed upon the hawk. Although but one pair of hawks had been preserved by Noah, in the ark, yet this pair, if capable of procreating, and hatching, like our dung-hill-fowl; twelve eggs in a year, might have produced in the following proportion.

IN the 1st year	6
2d	36
3d	216
4th	1296
5th	7776
6th	46656
7th	279936
8th	1679616
9th	10077696
10th	60466176 PAIR.

THEREFORE, even supposing every hawk to live but a single year, and to procreate but once in a year, there would have been, in the tenth year after the deluge, upwards of sixty million of pair proceeding from one pair.

As this is clear, the same calculation will make it equally evident, that in the twentieth year, they would have amounted to sixty thousand millions. And, should this calculation be continued through four thousand years, which have since elapsed, these pages would not be capable of containing the cyphers that would be necessary to express the amount. And, as there are above one hundred different species of birds of prey, supposing every species should procreate in the same proportion, I assure you, dear children,* no language contains words sufficient to express the vast number of them that would now exist. If you should attempt to multiply the supposed numbers throughout these four thousand years by six, and, again, by one hundred, for the different species, you would find no sheet of paper large enough to contain the calculation.

It is not, therefore, the least exaggeration to assert, that if this were the case, birds of prey would swarm, like flies, insomuch that their flights would darken the air, and break down every twig, upon which they might settle. All other birds would be destroyed by them, or even supposing it possible, that any other birds could

escape them, how wretched would they be, in continual danger of their lives?

EVERY other species of birds would, undoubtedly, have been, long since, destroyed, and all other animals, even men themselves, would have been greatly incommoded by these rapacious creatures, rendered desperate by the cravings of hunger: whereas at present, we scarcely see a bird of prey, for weeks together. As we are safe in our houses, when thieves are rare, so the birds may be safe in their nests, because birds of prey are but few. And, as from the uncommonness of homicides and murderers, we may travel without fear of being killed or murdered, so birds may fly about without fear of being devoured. They may, now, indulge in cheerfulness, and pour forth their harmonious praises to their Creator.

THIS is, now, the case, dear children, solely in consequence of the Creator's restricting the procreating powers of every kind of birds of prey. What, then, must be his aim, his pleasure, and his delight, in this particular? is it his intention to terrify the innocent, and to make them wretched? or rather, does he not aim at preventing terror, and wretchedness; does he not delight in seeing those creatures

happy, who sing his praises, in proclaiming their own happiness?

HAVING, briefly, considered the difference in the generating powers of birds, let us, now, reflect on the difference apparent in their instincts; and, in the first place, let us attend to their pairing.

It is a well known fact, that the male and female of some species of birds have an instinct for pairing, and live, as it were, in a matrimonial state, two and two together, whilst other species live in a state of polygamy. Of the first kind, as far as I know, are most kinds of wild birds, but all domestic birds, pigeons excepted, are of the latter. And, here, we may inquire, for what reason is this difference and contrariety in their instincts permitted, or, rather, implanted?

If our domestic birds had the instinct for pairing, in common with the wild birds, the consequence, you may perceive, would be, that men would be compelled to provide food for as many males, as females; and, if this were the case, men, probably, would preserve none at all, and, thus, become deprived of the many dainties which the eggs of the domestic birds, in particular, afford.

In a flock of sixteen dung-hill-fowls, for

instance, fifteen may be hens, and one a cock. And, as a hen may lay considerably more than sixty eggs in a year, so the yearly produce of such a flock will amount to nine hundred eggs, at least. But, had they the instinct for pairing, there would be no more than eight hens in a flock of sixteen dung-hill fowls, which, at the supposed rate of sixty eggs to each hen, would, collectively, yield no more than four hundred and eighty eggs. Men would, then, have been at the same expence in feeding them, though they would have yielded them but about half the number of eggs; and this would, probably, render these fowls hardly worth raising. Fowls and their eggs, would, consequently, grow dearer, and the poor could no longer procure this comfortable and agreeable aliment.

It is very remarkable, that even wild hens, ducks, and geese, have the instinct for pairing, while the domestic ones, although they are of the same species, are destitute of it, and procreate unpaired. Can you have more convincing proofs of the particular regard and attention of the Creator, than are obvious in this signal distinction amongst birds of the same species? is it not evident, that the Creator

hath considered the wants of mankind, and hath kindly directed even the instinct for pairing, in every domestic bird, to agree therewith?

IT is true, indeed, that tame doves, or pigeons, differ, in this particular, from other domestic birds; but even this exception, dear children, furnishes new arguments to prove what hath been asserted.

IN order to procure, and to appropriate to themselves, what may be profitable, men will, no doubt, always exert their faculties, but not in order to share what is their own with others, without present, or future, emolument, or indemnification. Tame doves, or pigeons, therefore, as they choose to breed in high places, have need of the instinct for pairing, that they may provide for their young, which might be neglected by men.

LIVING themselves chiefly upon grain, and feeding their young upon various kinds of it, which the parsimony of men, not unfrequently, industriously hides from them, they are unable to provide a large family with food. Behold, then, their nests, and acknowledge that their procreative power is under a very wonderful, and beneficial, restriction.

You will find, two, and, sometimes,

three, young ones in a nest. Thus, by the providence of the Creator, there can neither be that painful solicitude for food, on the part of the hungry nestlings, nor that painful labour, and that trouble, on the part of the affectionate parent, which there would, necessarily, be if their procreating power extended to the production of a more numerous family.

AND, as men would not think it worth their while to feed both the male and female pigeons during the snow and frost of winter, did pigeons, like other wild birds, breed but once in a year, and produce but two of their species; lo! the attentive Creator, who restrained their power to the procreation of but two, or, at most, three, young ones, hath graciously enlarged that power, by enabling these amiable creatures to procreate three, and four, times, and even oftener, in a year, while they can find grain scattered upon the fields, for the sustenance of their offspring. Observe, my children, how the all-provident Creator, knows selfish man, and inclines him to attend to these creatures, with greater solicitude! but, let us now turn our attention to the nests of the birds, and their instinct for constructing them in such various manners.

As eggs may easily be broken, or otherwise injured, and rendered unfit for production; and as the naked and feeble young must be fed, and defended from bad weather, and other evils, incident to them; so, it will be clear to you, that, both in choosing the place for a nest, and, also, in the manner of framing it, particular care must be had, lest either the eggs, or the young should be hurt, or destroyed. As birds alone are intrusted with this important charge, you ought to admire that instinct, which constitutes them the most perfect architects, and this the more so, as it is denied even to men.

THOUGH I have seen myself many hundred nests, and thousands of very studious men have, also, seen them, and reflected upon their structure, yet, no man can build one in that degree of relative perfection in which it is built by the wild birds themselves. Vain, therefore, would it be to deny that instinct, and to suppose, that birds may be taught a piece of admirable workmanship at the very first sight of it, and become the most skillful architects, the moment they first see a well adapted, and proportioned edifice, since even men can not be taught in such a way, nor acquire, at the first sight of

a complicated work, the necessary skill for constructing it. Instinct, therefore, is, undoubtedly, to be admitted. But, what inference must we draw from it?

IF in travelling through a country, you should come to a place, where you saw thousands, and thousands, of workmen busy in erecting houses, of timber, stones, and lime, exactly alike, and all in the same direction, all of the same length and breadth, height and solidity, what would you infer?

COULD you imagine, that all these workmen came together by chance? or that all these lines and directions were accidental, that this conformity in length, breadth, height and solidity, were the mere effects of chance, or necessity? or, could this be supposed, if on travelling further into the same country, you should see other workmen erecting other houses of a different kind of timber, stones, and lime, in other directions, and of different dimensions, in height, length, and breadth, from the first, yet, in every particular perfectly resembling one another? would you not rather believe, that some great architect, after having drawn the lines, and contrived the plans, had summoned the workmen; laid down the plans before their eyes, and hi-

red them to work, or, at least, persuaded, and prevailed upon, them to comply with his wishes, and directions. At the same time, if you should observe the situation of all these houses to be such as may best suit the occupations of those who are to inhabit them; that they are erected on a large river, when commerce is the principal object; on a fertile soil, when agriculture is more immediately in view; and on a sterile, yet well situated, spot, when manufactures are intended to be established; and that the houses themselves in their foundations, dimensions, and interior divisions, are best fitted for these respective employments; would you, then, hesitate, a moment, to believe, that he who directs the contrivance of these houses, and furnishes, out of his own funds, all the materials, and, moreover, provides for the prosperity of the inhabitants, must be wise, and benevolent.

EXAMINE, therefore, dear children, the birds, and their nests! reflect in what lines and directions all kinds of birds, uniformly, build their nests! these on the ground; those upon shrubs; some upon towers; others upon the higher branches of trees, and others, again, almost on their tops;

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but every individual, of the same species, about the same distance from the ground! reflect, too, upon the materials which every kind of birds maketh use of in building! measure the circumference, or the height, or the depth, of their dwellings! be attentive to the solidity, both of their foundations, and their walls! advert to the situations in which they are built, and tell me, whether there is not a most striking conformity throughout.

IT is a fact, which can not be denied, that birds of the same species build their nests in the same direction; of the same materials; according to the same rules, and of the same dimensions; that each bird builds its own nest as wide, and as deep, as round, and as soft, as firm, and as secure from the wind, the rain, and other accidents, as those of every other of the same species. It is, also, a fact, that birds of the same species build at the same time, and that each of them chooseth the most convenient place for its subsistence. If this is so, is it not equally self-evident, that there must be a supreme architect and director of nature, who formed all the various plans for such a variety of nests; who drew the lines; who laid them, as it were, before the eyes of the bird; and

who made these plans acceptable to them? and, since he furnishes the materials for all these buildings, and effects, by his plans, and directions, the well-being of these creatures; can you deny, that this sovereign of nature provides for, and earnestly designs, the happiness of these birds? that he is kind and abundantly gracious to them? can you think these incomparable qualities are inherent in stupid and irrational fate, or chance?

MOREOVER, amazing as these instincts are, yet, they are not superior to that which always instigates many species of birds to bid us farewell at the approach of winter, and to salute us, again, in the spring.

MILLIONS of birds undertake this migration, and even the young ones resolve, at once, to leave their native soil, in which they had, hitherto, prospered. There is no speech; there is no language, among them; and yet, they are called forth, and travel, in different divisions, into far distant lands.

EVEN, if the old ones could give intelligence to their young, and could explain their reasons for their wanderings; yet, where pleasures are to be left, and fatigues to be supported, you well know that young

folks seldom listen to the advice of their elders, and still less conform to it.

THERE are whole nations of men that would ridicule the traveller, who should tell them of frozen lakes, or rivers, which might be crossed, on horseback, or even in heavy carriages, because they have never seen any ice, and, therefore, have no conception of the effects of frost: how comes it, then, that young birds do not ridicule, or despise, the tale of an approaching frost, of which, as they have never felt it, they can not have the least idea? surely, there must be a supremely benevolent and omnipresent intelligence, who incites every bird to remove, by informing them all of impending danger!

AMONG the many interesting accounts of wandering birds, I have read one peculiarly striking. It relates to the passage of cranes from Europe to Asia. When they fly abroad, they always cry aloud, and announce their approach instinctively. But, before they arrive at the great mountains of Caucasus, which they must pass over, and where hosts of eagles lie in wait for prey, they always make a halt, and, though accustomed to rest at night, they stop here all day, and fly across the mountains in the dark, and, thus, avoid being

seen by the eagles. But, what is still more surprising, each of them taketh a stone in its bill, to prevent, or conquer, the efforts of that natural instinct which incites them to cry aloud, during their flight. By these means, they pass over the mountains in safety. Similar proofs of sagacity occur in almost every species of birds: how, then, can you forbear to acknowledge, and adore, an all-wise and benevolent Creator?

If you should see great bodies of soldiers, whose arms and dress, speech and looks, declare them to be of different nations, but, all of them on their march to the very same provinces, you could only conclude that they were all commanded by some able general, who knew how to direct their motions, and who kept them to their duty.

CONSEQUENTLY, when you behold different classes of wandering birds, gathered into flocks, and companies, and all flying towards the same parts, with their offspring, you must, necessarily, conclude, that they are influenced, and actuated, by a supreme judge, and leader, who, evidently, influences, and actuates, them, solely for their own good, not having, himself, the least occasion for them.

DOETH this supreme guide, and leader, graciously direct the birds? and will he neglect the human race? hath he implanted favourable and salutary instincts in birds, and not in men? no! no! my dear children! there is a spirit in man, and the inspiration of the Almighty giveth him understanding.

SEEING the Almighty doth not neglect, or disregard, even the smallest of the birds, it is impossible that his benevolence, which is, thus, extended over earth, and seas, should be withheld from men; it is impossible that men should be neglected, or disregarded, by him. And, can you dare to say, that you do not feel the divine impulse, though you may not fully comprehend, and many may query, from whence it proceeds? there is, indeed, an impulse, a wish, a longing desire, in you, as well as in me, for a nearer connexion with, and fruition of, things incorruptible, which desire may be defined, the hunger of the soul after perfection, and eternal life, and happiness.

IF a bird that felt the impulse for leaving this country, and for migrating into some different region, should suffer itself to be diverted from the design, and give no attention to its impulse, and, consequently, be in danger of perishing by the want of

food, or the rigor of cold, could it have any claim upon the mercy of its Creator? therefore, dear children, as you will, undoubtedly, feel a longing desire after a better habitation, which, both reason and the holy scriptures will tell you, is to be sought for in heaven, where you may taste an everlasting fruition of peace and joy. I beseech you, do not neglect this longing desire, nor permit terrestrial blandishments, of any kind, to divert you in so fatal a degree, as to irradicate these feelings from your souls! endeavor to wing your way towards heaven, that your hearts may not be set upon these varying, these temporary, scenes, lest, being inextricably involved therein, you should perish, with them, for ever.

DISCOURSE XL.

ON FOUR-FOOTED ANIMALS.

Dear children,

ON making the same experiments with the bones of a rabbit, or hare, &c. which we made (Discourse vii.) with those of a fish, you will find the effects of fate, and chance, to be the same, viz. disorder, and confusion. And, as this is the case, even with regard to the bones, your amazement will greatly increase, when you reflect on the interior parts of four-footed animals, which are still more remarkable than those of fishes, or even than birds.

IF you should carefully measure their entrails with ropes, and their arteries, veins, absorbing vessels, and nerves, with threads, and, then, put an equal quantity of them into a box, and, afterwards, throw them upon a table, they would fall into the utmost confusion; yet, just as many yards of entrails, of veins, of arteries, &c. were connected in the body of the hare, or rabbit, in the most beautiful order, and in the happiest arrangement. By what intelligence, then, and by whose directions, are these

bones, these entrails, these arteries, these veins, &c. preserved from confusion, in millions of millions of living individuals?

A hare has three, or four, young ones at a birth, a rabbit, sometimes, ten, and a sow still more. Therefore, it is evident, that the bones, entrails, arteries, veins, and absorbing vessels, of the young must have been arranged in the bowels of the respective old ones, which is the same thing, as if the bones, entrails, &c. &c. of three, or more, animals had been thrown together into a box, without being, in any wise, disordered. Now, as the strictest attention is necessary where the skeleton of but one hare, or rabbit, is to be formed, how can you doubt, that where four, six, or ten, have been formed, four, six, or ten, times the attention is requisite? *

THE tickets of many thousand lotteries have been drawn; yet, never have ten numbers fallen out in successive order, nor

* It were to be wished, that there were some skeletons of fish, fowl, or other animals, in the possession of every father of a family, and school-master, in order to employ youth in making such simple, and interesting, experiments with the bones. The impression would be much deeper in their youthful minds, on making the experiment themselves. Through the whole term of their lives, they would remember such facts, and never loose the strongest conviction of the Creator's unceasing attention, even to an individual of his creatures,

will it ever be so. Never will numbers,

11, 12, 13, 14, 15, 16, 17, 18, 19, 20, or
501, 502, 503, 504, 505, 506, 507, 508, 509, 510, or
7301, 7302, 7303, 7304, 7305, 7306, 7307, 7308, 7309, 7310,
come up in course.

If this should ever happen, and especially if none of these numbers should prove blanks, but, on the contrary, all of them prizes, every person would naturally, and, indeed, very justly, suspect the managers of having acted dishonestly; because they and their friends would thereby win the largest sums, or prizes. Even from this circumstance, therefore, my children, you may form your belief concerning the frame of such an animal?

ON reckoning up all the bones of a four-footed animal, you will find them to exceed the number of two hundred. Extending this enumeration to the ten young ones of a birth, the aggregate number will be upwards of two thousand. And, these two thousand bones nature repeatedly forms and classes, in the most perfect harmony, and order: let us, now, examine in what manner!

SUPPOSE, all the bones were marked with cyphers, beginning, in their natural order, from the head of the first born to its tail,

as from number one to two hundred; then, in the same manner, from the head of the next born numbered up, as from number two hundred and one, to four hundred and one, and, so on, to the last, that is, from number one thousand eight hundred and one, to two thousand. Observe, then, whether nature ever throws number two hundred out of the end of the tail of the first-born, towards its neck, or among its ribs, where you now find number sixty-one, or one hundred and thirty-five? observe, whether nature throws number one hundred and three out of the back-bones of the first-born, into the feet of the last, where one thousand nine hundred and fifty is, now, placed? in short, observe, whether any of these bones are irregularly placed; or unconnected together; as numbers 63, 1756, 5, 830, 1241, 22, 971, 1214, and so on, or whether the order of the whole process is regular, and connected; as number

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, &c
 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, &c
 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, &c.

MOREOVER, observe, my children, whether nature disposes the bones of birds, like so many blanks, in the bodies of hares, or those of fishes in rabbits, or a single bone of a pig in a horse, or one

of a horse in a dog, or cat? amidst an infinity of different bones, prepared, and nourished, by the same kind of food, it is wonderful, that the bones of one animal are never such as would be pernicious to it, or, to carry on the allusion, are never blanks, but always such as are most proper for it, always, prizes.

You will, therefore, my children, sooner believe it possible, that the managers of a lottery could have it in their power to draw every ticket in regular succession, from number one to twenty thousand, and, thereby, secure all the prizes of lands, houses, arms, books, and other valuable things, to their friends, and adherents, according to every ones particular wish, and yet be innocent and righteous men, than that nature, unqualified, and undirected, by her great author, could cast her innumerable lots in such a manner as to make her numberless favourites always gainers, but never sufferers, especially with respect to those matters of which they stand most in need, and which are best adapted to them. Here, then, my children, you, again, perceive the evidence of an intelligent author, and sovereign, of nature. If you diligently seek him, you will find him near you. He is present in every

thing, throughout the universe, whether it be animate, or inanimate.

BUT, I would, also, have you to advert to the entrails, the arteries, the veins, &c. all of them are hollow. I wish, you would inquire, who can bore, and hollow, such an innumerable quantity of them, as is formed every moment? death would, inevitably, follow, were there the least obstruction in the arteries, and veins, or any irregular perforation of them. How great, then, is the skill that is manifest in these performances!

OBSERVE, dear children, the difference in the situation of the organs and vessels for the collection and preparation of milk, in the body of a cow, or mare, from those, which are assigned to these offices, in the body of a hare, a sow, a cat, or other suckling animals, as well as in the human species.

THE uniperous beasts, indeed, such as cows, &c. have these organs hanging down, between their hinder legs, that their young, which, from the very birth, are of considerable height, may suck them readily. But, the multiperous beasts, as they have, at least, as many teats as they bring forth young at a birth, have these organs pla-

ced in two rows along their bellies, all of them inclining to the ground. that their young, being at their birth very small, may easily reach them, with their mouths. On the contrary, in the human species, milk is always conducted to the breast, and the mother suckles her child between those arms, in which the feeble suckling must be held, that he may smile upon his mother; and the enraptured mother upon him. How charmingly wonderful! by what channels is the milky nutriment so aptly distributed in different creatures? why it must be collected in these, into vessels along their belly, because their young are low, but in those, between their hinder legs, because their young are high, and, again, in the human species in the breasts of the affectionate mother, because her suckling is feeble, and must be nursed in her arm!

THESE rules, dear children, are always observed by nature; in no instance are they neglected. Is it possible, then, that such a beneficial regularity should invariably proceed either from inattentive fate, or varying chance? how strongly does this arrangement argue the existence of a provident and intelligent Creator!

ALL these animals live upon half ani-

mated grass, and grain, and even the flesh is dead which the carnivorous beasts feed upon. Although there is life and various senses in the old ones, yet they singly have but one life, and but one sense of seeing, of hearing, of tasting, of feeling, or of smelling. From whence, then, are derived the new and multiplied lives, and senses, of their respective young?

THAT water should produce drought, or fire moisture, would not be more absurd than to suppose, that half animated and senseless grass, or grain, should, of itself, be capable of producing life, and sense. For, as cold water will remain cold, and never be hot, if not acted upon by heat, so dead and senseless food will remain so, if not impregnated by an enlivening, and a quickening, power.

WEAK, then, and truly ignorant as youth may be, you can not, dear children, be so much so, as to think, that either dead and senseless food, or fate, and chance, which are allowed to be dead, and senseless, can be the author of any thing living, and sensible. In every living creature, therefore, you must acknowledge a Creator, who, being the very fountain of life, and sensation, hath quickened and enlivened them all, and even these four-

footed animals, which are so useful to them, yet so much abused by them.

O! dear children, never rashly, and insolently, wrong, or abuse, these creatures, since they are, undeniably, the workmanship, and property, of the Creator, and not yours! never enjoy any benefits from their faculties without praising, and worshipping, their author!

DISCOURSE XII.

ON MAN, IN GENERAL, AND, IN PARTICULAR, HIS BONES, ARTERIES, VEINS, HEART, EARS, AND NOSE.

IN places, my children, where, for the instruction of young surgeons, the bodies of executed criminals, as well as prostitute, and irrecoverably infected, persons, who die in hospitals, are delivered into the hands of anatomists, for dissection; and, where the poor and incurable dispose of their bodies, at their own option, to be dissected, after they are dead, such experiments, as I have mentioned, relating to the bones, entrails, arteries, veins, &c. of brute animals, can be frequently made on those of the human body. But, as often as I have attended theatres, where the professors of that science, were employed in shewing a human skeleton, and displaying its various bones, I have been irrefragably convinced of our being framed by a power infinitely intelligent, and great. And, if ever you should happen to see a human skeleton, and attentively observe the most harmonious arrangement of all its bones,

you will, no doubt, receive therefrom the same conviction.

BUT, as the body of a man interests the human mind much more than that of a brute animal, I cheerfully continued to attend the demonstrations and lectures, of anatomists, and found that they leave nothing unexplored, in their inquiries into the structure of the human body, and have laudably carried their researches into its most minute textures, and connexions, so, that it is impossible for me to enumerate all the wonders, which they have discovered, and I must, therefore, confine my observations to a few remarkable particulars.

AFTER having attended to the circulation of the blood, and explored the fountain from whence it springs, and the channels of its continual flux, and reflux; after letting all the blood out of the arteries, and veins, they inject wax, commonly of a reddish colour, into them, so, that one may discern almost all these vessels of a man's body, divested from flesh, and skin; just as mens bones may be seen in a skeleton. Such a sight as this must, ever, strike the human heart with the most awful admiration of a frame so marvellous, and complete, as the human body.

VESSELS of considerable length, altogether

filled with blood, are wound up into a ball, in the breast of a man, which constitutes his heart. We can scarcely conceive that such extended vessels, filled with a fluid, can be wound up into a large and heavy ball, without stopping the current of that fluid.

PROPERLY speaking, dear children, there is only one artery in a man's body, but, like a great tree, it extends various branches, and innumerable shoots, to the remotest parts. Though interspersed amongst bones, flesh, and skin, all of which are of some weight, and must cause a certain compression, yet, the circulation of the blood is never stopped, not even in the most minute ramifications, by all the heavy masses which press upon them. They meet with no obstacle in their way, and extend their innumerable, and exquisitely fine, ramifications, and penetrating all the muscles, they direct the fluid they contain into the finest extremities. This artery spreads itself most minutely, and most invariably, through all bodies of the same species: say, then, dear children, where shall we find extreme exactness in calculation, operation, and direction, if not in these particulars, evincing the skill and work-

manship of a most intelligent, and provident, Creator?

LET a man throw upon a table as many yards of thread as there are yards of arteries, and veins, in his body. If the thread should fall, even in a single case, expanded into innumerable twigs, and shoots, resembling those of the arteries, and veins, in the body of a man, then, we may believe chance might have wrapt up our mortal frames, and provided all our bodies with these necessary canals. As this will never be the case, we can never admit of so absurd a supposition. But, for the present, let us attend to the exterior parts only, and leave the interior, and more intricate, parts of the body, to a future consideration.

BEHOLD, then, dear children! the arteries, and the veins, many of which visibly overspread your bodies, and appear through the transparent skin. Behold! your hands, in particular; your arms, and your feet. See how these vessels run along the sides of your joints, and knuckles, when you will, perhaps, suppose they might as well cross and traverse them. Whereas, if they did traverse them, the circulation of the blood would be more liable to be stopped, and your hands and

feet stiffened, and benumbed, whenever you should attempt to close your hands, to lay hold of any thing, or to bend your knees, in order to sit down.

GREAT as is the number of knuckles in your body, and of branches of veins, dispersed through your whole frames, yet, in no place doth any part of these branches, or any considerable shoot of them, run across a knuckle? thus, none of your members are, at any time, stiffened, and incapable of motion. Can all these things, so regular in themselves, have been the operation of irregularity, and stupidity, of fate, or chance? had you been the creatures of, fate, or chance, what piteous monsters would you have been! a chaos, indeed, of heterogeneous parts, and breathing masses of incoherent, and impotent, matter!

MOREOVER, dear children, there are suspended in your ears a pair of drums, and drum-sticks, exquisitely tender. The air, beating upon these drums, with these sticks, announces to us all external sounds. You well know of what great advantage it is to you to receive the information which they convey, and how precious these organs must, therefore, be to you. But, reflect on the tender, and delicate, structure, as well as on the importance of the

offices, of these organs; and consider, where you would have placed them, to prevent their being injured; admitting, that the Creator had entrusted them entirely to you, in order to preserve them for yourselves.

A better situation than these winding cavities in your ears could not be found. How absolutely necessary, therefore, are these wonderful appertures*, even in respect to the preservation of these organs, without regard to the sound, and its due reception!

OBSERVE, dear children, the insects! how almost all of them seek for holes, in which they may dwell, or breed. You will hardly find a hole without them; and could they be lodged any where better than in these windings of the ears? would not these be preferred by them, for those purposes, on account of their warmth? what, then, would be your condition, had stupid,

* I am not afraid of incurring the censures of the candid, for singling out such parts of men as might have been described in brute animals. As my design is to connect the thoughts of the Most High, with every thing visible, I must speak singly of almost every species of things. But, as sprightly youths will not dwell long upon one, and the same, subject, I must conform to their temper. In fine, as the senses of my fellow-creatures are somewhat delicate, at least, rather averse to an attentive contemplation of the heart, veins, blood, eyes, ears, nose, and hair of a beast, I must speak of these wonderful things only in relation to men themselves, and no further than as they relate to the human species.

and careless, fate, or chance, framed your body, and your ears?

INEXPRESSIBLE is the smart, when, by some accident, the viscous matter in the ears is wanting, so that an insect may creep into them, there to reside. I always recollect, with terror, the lamentable outcries of a person, whom I, once, saw thus afflicted, and such cries I should have had cause to utter myself, had I been the workmanship of stupid fate, or chance. They would not have protected me from such dismal accidents by constructing the inward parts of my head for the preparation of that acrid matter, which, being continually secreted into the cavities of the ears, obstructs the way, and disgusts the insects.

IF nothing more than excretion from the interior parts of the head had been necessary, this viscous, acrid, and bitter, matter could have found its way, either by perspiration, or through the mouth, or by the nose. But, for the protection of the organs of hearing, there was a necessity for the formation of proper channels, leading to the ears, and that these channels should abound in a viscous, and acrid, matter. Does not this evince the singular care of the Creator?

I know not, dear children, whether the

excrements of any living creature are so disgusting as that there is no kind of insects that will not taste the same, and find it relishable : but, I know, that the excretion of the ears is made distasteful to every insect, otherwise we should be unable to keep off all the flies, that would continually swarm about our ears, and impede our hearing. Here, then, even in the preparation of the excretions, there appears to be an exemption from the common laws of nature, but, it is an exemption that is favourable to men, and, apparently, designed for the express purpose of excluding insects from the ears, and making them a dreadful labyrinth to these creatures, that men may not be harassed with excruciating pains.

AGAIN, for all the riches in the world, I would not lose my nose, so disgusting is the appearance of those who have met with this misfortune. Yet, notwithstanding its symmetry, and the benefit derived from it, as the organ of smelling, the nose might have been infested with insects, and with other small animals, had not he who framed my body secured me from these intruders, by that rapid stream of air which I constantly inhale, and exhale. The excretions from the nose, you see, are such as invite insects. How often, then, should

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we have reason to complain, was it not for this tide of air in our noses, without which we could neither sneeze, nor blow our noses, or drive off the insects, that infest them.

ADVERT, also, my children, to the great difference which prevails between the substance of which your noses, as well as your ears, are formed, and that of which your other parts are composed. Were your noses, and your ears, altogether fleshy, like some other parts of your body, and not cartilaginous, or grissly, such corrosive matter, in both your noses and ears, would frequently eat into them, and become painful to you. Expressly, then, for your benefit, a peculiar substance is prepared, and whom are you to magnify for it, in thanksgivings, and in songs of praise? whom but the Almighty, who created every thing that lives, that moves, or exists, throughout the infinity of the universe?

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DISCOURSE XIII.

ON THE TONGUE, HAIR, EYE-LIDS, EYEBROWS, AND EYES, OF MEN.

HA VING seen men eating and drinking whose tongues had been cut out, I am convinced, that I have no absolute necessity for a tongue, although intended by the Creator to derive nourishment from eating. Yet, were it otherwise, why was it formed of a substance entirely different from that of my legs, and of others of my members? what necessity was there for enduing it with another sense, different from that which my arms, or fingers, are endued with, when touched? that Almighty Being who created me, exerted his power for my benefit, and chose a particular kind of fleshy substance for my tongue, rather than leave my heart empty, and void of all the manifold sweetneses, which the tasting of so great a profusion of the relishing productions of nature affords. Is it possible, then, dear children, that we should all enjoy these benefits, thus dispensed by the Creator, and, still, not thank him kind, and gracious?

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tive of the same effects, you must wonder to see long hair cover your skulls, and the hinder parts of your head, whilst short hair grows on your faces, and on the arches over your eyes, although, at the same time, your fore-heads are bald. If the head, being the most bony, and the least fleshy, part of the body, is naturally the most productive of hair, the fore-head, being as bony as the skull, ought not apparently to be bald, nor the hair about the eyes to be short. But, as this great difference in the hair is not to be derived from an entire equality in the various parts of the head, so, I must derive it from an inequality in their frame, and construction. But, then, you may, perhaps, inquire, for what reason the Creator thinks this inequality in things, seemingly trifling, worthy of his continual attention, when even men would not think them so?

It is clear, my children, on the supposition that there were no particular attention, and proper direction, in the frame of the head, that the elements effecting the growth of the long hair of the skull might shift their station to the eyes, and cover the face; and, that the same elements, opposing the growth of hair in the

fore-head, might, by residing in the skull, render it altogether bald, &c. If this were the case, what disfigured looks would men not have; and young men, and young women, in particular, whose appearances are now extremely graceful? how greatly would it, also, obstruct the sight, even now, but, much more would it have done so in ancient times, when neither knives, nor scissars, were to be had? do you not, then, see the glorious Creator, even in these trifling things? do you not see him designing your benefit, and really effecting it?

You are not ignorant of him who hath asserted, that even the hairs of our heads are numbered by our father in heaven, and I would not have you to think this a mere rhetorical exaggeration. As hair, in general, cannot grow in a place where the requisites for its growth are wanting, so, it must absolutely grow where none of these requisites are wanting, and, it must grow longer, or shorter, according to the amount of those requisites for the growth of either longer, or shorter, hair. As this cannot admit of a rational doubt, so, it is not to be controverted, that the Creator of both men and beasts, before he adorned, and covered, them with hairs, must

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have calculated, and, afterwards, produced, the amount of the requisites for every one of their hairs. Thus, then, not only the single hairs of men, but, also, those of beasts, not only wholly, as they are planted in their bodies, but even in their minutest parts, and requisites, are individually numbered. Inconceivable, indeed, I readily confess, by our limited conceptions, yet, it is as sure as that we live!

ARE you startled at this, my serious, assertion? come! behold, this very little and tender hair, which I took from the head of your brother, through my microscope! is it not hollowed, as if it had been bored! examine as many of them as you will. Are any of them irregularly perforated? recollect, what you have seen yourselves of the effects of fate, and chance, relative to bones, arteries, veins, and entrails, and feel the very presence of an Almighty, and very provident, Creator, even in the smallest hair!

THERE is not one hair on your body but what has been fashioned, and implanted, by Almighty God. Will he not, then, see, and observe, you, who have so distinctly seen, and observed, even the smallest hair of your bodies? with a single glance,

he has penetrated their subtilly fine elements, when they were disperfed in the darkness of chaos, and with fuch a glance can he not, likewise, penetrate the darkeft, and moft concealed, of your thoughts? furely, dear children, moft furely, he doth penetrate them.

If letters written by the Creator's own hand were delivered, or his own fpeech directed, by word of mouth, to you, immediately from heaven, could they be more evincing proofs of his exiftence, and of his fpecial attention, to you, than you now have, in every one of the members of your bodies, and even in every hair of your head? no fpeeches, no letters, no vifions, could declare, and difplay, the extent of his power, and his univerfal, and efpecial, providence, and wifdom, fo evidently, fo incontrovertibly, fo univerfally, and fo continually, as all thefe infinite qualities are difplayed in every thing that exifts, throughout the univerfe.

VISIONS, communications, or voices feemingly from heaven, might be produced by defigning fellow-creatures, to deceive us, but your own members are not in this predicament. Thofe might, alfo, appear to be but dreams, or illufions of the imagination, but, your members are real, and fenfible, objects, li-

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able to no deception. And, indeed, all voices, and communications from heaven, could declare no more than what we see, with our own eyes, and comprehend, by our senses, that the author of nature is Almighty in power, and infinite in wisdom, and in grace.

ALL your members, therefore, are like so many well authenticated letters, written by the Creator's own hand, and delivered into yours. How could you, then, deny his existence, and most especial attention.

COMMUNICATIONS, voices, and apparitions from heaven, are, indeed, but trifles in comparison with any one natural object, which requires a greater exertion of power, and of intelligence, than can be requisite for the former. Nevertheless, the thoughtless multitude is constantly wishing for such apparitions, and such voices from heaven, not considering, that if they were as frequent as they wish them to be, they would become as familiar to them as the works of creation now are, and might be much more reasonably conceived to be the effects of blind fate, and chance, than the outward works of the creation.

WHAT it was not beneath the dignity of the Creator to produce, it can never be beneath the dignity of humble man to con-

sider, and to reflect upon. Although, therefore, the generality of mankind may think it trifling, or unworthy, to muse upon their hair; yet, you, I hope, will not think so. And, in so doing, you will find it very remarkable, that the hairs on the eye-lids, and those of the eye-brows, differ from each other, and both of them from the hairs on the skull, as well as in the beard, and, moreover, are differently placed, and arranged.

THOSE on the eye-lids are not placed upon the whole surface of those parts; but only on their extremities, and project for their defence. While, on the contrary, those on the eye-brows lie close to the skin; yet are arched, and bent downwards, though they might have been altogether levelled, and extended, or, if arched, the arch might have been the reverse of what it, now, is.

BUT, if they had been formed in a straight direction, or arched reversely, you will easily conceive, my children, that the acrid sweat, from the fore-head, would filter through the eye-brows, and, thus, fall into the eyes. As this would be painful to men, so, you find it happily prevented by the arched arrangements of the hair, which constitutes the eye-brows.

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By this position, all the sweat is diverted from the eyes, and is conducted over the cheeks, or over the nose, and, thus, we are preserved from no small inconvenience.

SINCE, also, if the eye-lids were covered all over with hair, they could neither be opened, nor closed, with as much ease as they now are, you will comprehend, that in this case much more dust, and even insects, would fly into the eyes. You will, also, comprehend, that the few hairs placed on the eye-lids, not only adorn the eye, but serve, like so many advanced guards, to prevent any hurtful thing from approaching, and immediately notifying the eye-lids to protect the eyes, by closing over them. Thus, dear children! even the little hairs of your eye-lids testify that you, also, are kindly regarded by the beneficent Creator.

FROM those barbarians who, once, thought it a severe punishment afflicted on their most atrocious criminals, to cut off their eye-lids, you may learn, how great a benefit the Creator hath bestowed upon you, in furnishing you with these useful, as well as well as ornamental, parts. Without them you could neither walk, nor work, if your face were turned towards the re-

splendent beams of the sun, since, in this case, they would injure your light. Rain, and snow, and hail, would greatly annoy them, and dust, as well as insects, would prove materially injurious.

THAT he might preserve both men and animals from all these pains, the gracious author of nature has bestowed upon men, beasts, birds, and fish, such eye-lids; and to make the rational creation the more sensible of his benevolence, lo! what a wonderful substance he has formed for their eye-lids: it is a species of skin, quite different from the common skin. It is formed without joints; yet, it is agile, and more pliable than the best jointed of our members, so that it can twinkle by its own agility, and there is hardly any succession in nature so quick, nor hardly any division of time so minute, as the twinkling of our eye-lids. This can be for no other purpose than to convey to the mind the most immediate warning of approaching danger.

BUT, as all this would not be sufficient to keep the eyes free from dust, and insects, which might intrude, when they are necessarily open, springs are made to flow from our heads, distributing the clear-

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est water into our eyes, to preserve them clear, and moist.

AND, with respect to the eyes themselves, beside their wonderful, and inscrutable, formation, where, my children, are they placed? "You were," as Job strongly expresses the idea, "poured out like milk, and curdled like cheese." When this happened, why did not these drops which curdled into your eyes, fall into your face, on both of your cheeks, or on your breast, and neck, or on some other part of your body? how wonderful is it, that these drops should always fall in the most convenient place!

MIGHT not they have formed themselves on the prominent parts of your faces? if so, your eyes might have been immediately dashed out, whenever you fell, or received a blow. Or rather, were they not designedly placed where they are fixed, as if fortified by the strongest bones, not only being ornamental to your faces, but, also, protecting your eyes from accidents, in the same manner, as men are preserved from the explosion of cannon, behind parapets, and ramparts?

MY dear children; not to over-charge your mental faculties with the representation of too many great, and wonderful, things

in nature, it would be better, perhaps, to repeat those which I have already alledged, than to adduce others. But, I cannot forbear discoursing with you respecting atheists, that you may have a paternal caution to avoid such opinions as would naturally lead you into errors, into vices, and unhappinesses.

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DISCOURSE XIV.

ON THEORETIC ATHEISTS.

I DO not know, dear children, whether there are in this country any theoretic atheists; that is to say, persons who profess to believe, that fate, and chance, are the original causes of things, and not rather God, of whose being, and providence, I have given you such convincing proofs, in the preceeding discourses. In other countries I know there are some such persons; and I have read their books, containing the arguments for their belief, or rather their non-belief.

As far as I have observed (and charity inclines me to the opinion) they are not so criminal as is commonly represented. Their errors lie chiefly in their inattention to those signal proofs of wisdom, and of kindness, which you may trace in all the works of nature, and which are, indeed, incontestable.

Be this as it may; should you ever happen to meet with such atheists, be not afraid of them! I do not advise you to keep at such a distance, as not to attend to their arguments. Although I love you exceed-

ingly, and hope never to tell you an untruth, yet, I am a man, and the ablest, and most well-meaning, are subject to errors. Men are, also, too often swayed by some prejudices, more or less perceptible. Therefore, all that I can advise you to, is to recollect the manifold arguments which you have heard from me, in my former discourses, together with your own observations on this subject; then, to compare the arguments of an atheist with them, and to prefer those which have most weight. Justice requires this, and, if justice had always been done in matters of religion to all dissenters, there would, now, have been none, for truth is illustrated by investigation.

I have always found, in every thing around me, thousands, and thousands, of the strongest, and most evident, arguments to prove the very existence not only of a most powerful, but, also, of an all good, and all-wise Creator. Not a single argument could I ever find in favour of fate, or chance, which was, in any degree, conclusive: of all this, dear children, I can most solemnly assure you.

ALL arguments in favour of fate, or chance, involve the sufferings of all the living creatures, on this earth. A man must, in-

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deed, be blind, or obstinate, even to dullness, who can deny, that there are great, painful, and even undeserved, sufferings, common to all, that breathe upon earth. For instance, what crime hath an innocent bird committed, that it should be torn to pieces by the rapacious vulture, or killed, and devoured, by man?

OMNIPOTENCE, no doubt, could prevent these sufferings. We are ready to suppose, that unwearied and unrestrained benevolence would have prevented them. "Is there a more serious truth," exclaims the atheist, "than that he who created all creatures, can not be benevolent, but, on the contrary, that, if there is such a Being, he must be improvident, and even malevolent, and nearly such as fate, and chance, are thought to be!"

At another time, I shall show you the fallacy of this their reasoning, yea, I will shew you clearly, that even from these sufferings men ought to infer the existence of an all-wise, and all-benevolent Creator, and might be induced to doubt of, yea, to deny, the Creator's infinite benevolence, had he not exposed men, and all their fellow-creatures, to sufferings, and to painful accidents. As you cannot yet comprehend all that may be said on this point,

it will be sufficient to offer but one particular in support of this my sentiment, that you may conceive how such thoughts, and inferences, can enter the mind of your father. Listen, then, to me, my children!

OF the Roman emperor Caligula we are told, and may believe the story, that he was so fond of a certain horse, that he decreed to him all the honours of a Roman consul, which, at that time, was the highest dignity in the whole empire: these honours were, accordingly, paid to him, and the horse actually ate at the emperor's table, out of dishes of gold, though the animal had never done, or suffered, any thing remarkable for his service. I myself have seen an instance somewhat similar in the stables of the late king of Prussia. That monarch caused a very old horse, who had lost all his teeth, to be fed with meal, and to be particularly attended; because, when greivously wounded, the noble animal had resolutely sustained his master, and had preserved him from death, or captivity.

NEARLY two thousand years have elapsed since Caligula, that monster in human shape, was emperor of the Romans. Whoever has heard of his conduct towards his horse, hath not admired, but hath ri-

diculed, him for it. But, on the contrary, whoever has heard the story of the king of Prussia's horse, must admire that hero's kindness, and must esteem him for his gratitude.

To a rational being it is displeasing, indeed, to see extreme benevolence exerted towards the unmerited; and governments may honourably, and amply, provide for the disabled meriting citizens, but must incur our censure as soon as they provide for the unmeriting as well as for those. The same is to be said, did government entertain the gallant youth in splendour, and, yet not require their services, but, on the contrary, prevent their being exposed to dangers, in the cause of the community. Who is there who would not scorn such governments, and despise a youth who could think himself happy in a total indolence?

Now, my children, not to create things when there is power sufficient to create them, and not to produce as many creatures as can be rendered happy, is not conformable to supreme goodness, and benevolence. The all-benevolent author of nature will, therefore, continue to produce as many creatures as can possibly be made happy; and, accordingly, he does so.

SOME of these creatures, being destitute of reason, can only be passive in his service, to attain the ends of creation ; others, as, for instance, men, can be both passive, and active. Both of these are the complements of those purposes. Both of these the Creator must cause to procreate. Have they effected his purposes ; have they suffered, in so doing, then, he will take the more care of them, and every thinking creature will rejoice on account of his generous recompenſations.

BUT, had any creature neither answered any good end of existence, nor suffered any evil for the common cause of creation ; if, notwithstanding this, the author of nature should confer blessings, after blessings, upon them, every rational being must be displeased with him, and think him a Caligula-like governor, who could take pleasures in conferring unmerited favours. It is for this, also, that the will of God is done in heaven, and angels, and archangels, administer to their Creator. Heb. i. 14. And who, but must despise them, were they not ministering spirits, and rather indolent like the youth, abovementioned.

BUT, as I have, already, said, you shall hear more of this, at another time. What hath been observed by me, will suffice, at

least, to lessen the force of this atheistical argument. However, lest this should not be sufficient, I will shew you how to oppose this kind of atheists, in another manner.

THOSE atheists, who would persuade you of the non-existence of a rational, and most benevolent, author of nature, would either be reputed rational, and wise, men, or irrational, and unwise. Ask, then, any of them, for what they will be held? and do not fear to grant them whatever they pretend to.

WOULD they be accounted irrational, and unwise, you may reply, that thinking yourselves rational beings, you should degrade yourselves from rationality to irrationality, and from wisdom to folly; did you follow their advice. But, atheists will immediately tell you, that they think themselves more rational than most other men, and far beyond the comprehension of thousands. They will add, that it is for this reason, that they humanely condescend to inform the understandings of others, in order to banish from their hearts a fear altogether unreasonable. Granting them, also, rationality, and wisdom, dear children, ask them, by what means they have proved, or can prove, their own wisdom, and rationality? here you will find them at a loss.

THEY cannot prove their wisdom, and rationality, unless they can produce some noble plans which they have deeply laid, and some adequate means which they have applied to the accomplishment of these plans, notwithstanding many difficulties, and impediments. But, in either case, the atheists must either renounce their own rationality, or admit that of the Creator.

FOR, let them enumerate all the noble plans which they have formed, yea, let them represent the noble plans of other persons, as if they were their own; let them tell you of those means which they have contrived for the execution of their plans, in order to overcome every obstacle in their way; yet, never oppose them with warmth: grant them all which they pretend to, but, you may reason with them thus:

BECAUSE of the many noble plans which you have formed, you expect that we shall believe you to be rational beings, and wise men: and so we do. But, your plans are not so numerous, nor so complicated, so universally extended, and so universally beneficial, as those which we have discovered in nature: (Discourses i.--xiii.) how, then, can you deny the wisdom, and rationality, of the author of nature, at the

same time that you claim the admiration of your own, in the few, and very contracted, plans which you have offered?

If you can realize means equal to the execution of your plans, we willingly draw a conclusion in favour of your wisdom. But, is there any thing in nature, for which the great author of it hath not made a most adequate, and permanent, provision, as well for individuals, as for the species at large? do not all things in nature admirably promote, and coincide, with these plans? do they not overcome the manifold obstacles which they meet with! (Discourses i.---xiii.) how, then, can we esteem you as rational beings, and not, likewise, the author of all nature?

If the innumerable plans which are so obvious in nature, and the perfect harmony of all the many means by which these plans are accomplished, do not evince the rationality of the author of nature, your few insignificant plans, and little favourite means, cannot, surely, evince your rationality. If, notwithstanding these great, and evident, plans, and means, you can imagine nature to be the work of an irrational, and stupid, author, like fate, and chance, we must, notwithstanding your plans, and means, think you stupid, and irrational. We must

think, that it were better for you to be silent, and rather to listen to the doctrine of others, than to presume to teach the people yourselves !

If you, seriously, reflect upon these things, dear children, I am not afraid that any of these atheists will ever gain an ascendancy over your minds, so, as to cause you to doubt of the existence of a Creator, who is not only all-powerful, but, also, all-good, and all-wise.

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DISCOURSE XV.

ON PRACTICAL ATHEISTS.

GENERALLY, and in common conversation, you will hear, my children, mankind speaking of Providence, and of a Creator, inconceivably benevolent, and wise. At the same time, you will hear them acknowledge, that it is by the grace, and power, of the Creator, that they have their limbs, their senses, and every thing that is good, and of which they have need. But, if you reflect upon the actions even of those, who, thus, confess the Deity, you will be astonished at their conduct, respecting these things.

WERE their feet, arms, ears, eyes, and all the other members of their body, of their own making, and had men themselves created beasts, birds, and fruits, &c. by their own wisdom, and power, they could not dispose of them more absolutely than they now do, though they acknowledge all these things to be the property of the Creator, and not their own. And, were there no Providence at all, but, on the contrary, were all things left to the disposition of irrational fate, and chance,

men, in general, could not be more sorrowful, and desponding, than they now are, though they solemnly profess to believe in a Providence, and would be apt to persecute those who should venture to oppose this their profession. Men thus inconsistent, and weak, may be called practical atheists; and, when you observe them, and see almost all mankind, act as if there were no Providence, no such Creator, and proprietor, as I have evinced to exist, you may, I fear, be led to doubt, if not of the Creator's existence, at least, of his especial attention to every single thing, as well as to every application of things.

For, how could men invade, abuse, and destroy, the property of another, destined for the best purposes, if they firmly believed, that the proprietor was not ignorant of their invasions, and abuses, but was an eye-witness thereof, and so irresistibly powerful as to be able to crush them to atoms, in a moment.

MEN who can act in such a way seem to deny, or to doubt, of the existence of such a proprietor. Young people are wont to adhere to the maxims of that party which is the most numerous; they are wont to assume their sentiments, and contract their habits.

THUS, dear children, the human race continually running in pursuit of pleasure, and presuming they shall find it in visible things, do not attend to what is invisible, and lose the thoughts of their Creator, particularly in the hours of great dissipation, when their unworthy passions have been so roused as entirely to fill their narrow hearts. From which to infer, that there is no God, or that men did deny, or doubt of, the existence of God, would, indeed, be as false, and as absurd, as to suppose, that bad children must necessarily have no parents, or tutors.

OF the ostrich we are credibly informed, by travellers, and others, that at the approach of a man, he hides his head among the bushes, and thinks himself quite safe, and concealed, from sight, though all the other parts of his body are exposed to view.

You smile at the great simplicity of this bird; but, I wish, you may never act in the same foolish manner, for almost all mankind frequently do so.

HAVING their hearts, and their senses, entangled among the thorns, and briars, of this world, they contract their views, and,

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thus, keep every other more excellent thing from before their eyes, so that they can only see what is among these briars, and thorns, and do not perceive the glory of the Deity, which shineth, on every side about them. Like the ostrich, they foolishly fancy, that they themselves lie hid, and are unperceived, even by the Deity. Thus, from a temporary inattention, and forgetfulness, they often act as if there were no God.

BEWARE, dear children, of ever copying after such examples! beware of imagining, even for a moment, that you are, at any time, unseen, and unobserved, by the Creator, who, as you have heard, most attentively observes every hair of your heads, yea, the most minute parts, not only of those of men, but even of beasts (Discourse xiii.) Beware, therefore, my children, of falling into so fatal a maxim, although the human race should be so generally influenced by it, as to overlook, neglect, and forget, the all-provident, and all-attentive, Creator!

It is a great misfortune, indeed, that mankind, in general, are so widely mistaken! it is a misfortune, that the intent of the Creator, respecting the members, the faculties, and estates, of men, is so little un-

derstood; that their worldly occupations are represented as if they stood in opposition to, or at least excluded, true worship; and, that men's pains, and sufferings, are inadequately valued! unhappy race of mortals! who, by their mistaken opinions, must lose the thoughts of God, and cannot justly rejoice, neither in their doings, nor in their sufferings. O! that they would no longer think themselves the absolute disposers of what they are possessed of, but, rather, consider themselves as the servants, and stewards, of God, whom he hath sent into this world, as upon his estate, there to labour, according to their respective abilities, for the good of his innumerable family, under his direction!

IF this were the case, men would be able rightly to estimate their possessions, as well as their labours, and sufferings. Then, men would have much greater prospects of gain, than they now have, viz. those trifles, which they consume. But, ever considering all their faculties, estates, &c. not as the tools, and implements, furnished to them by their Lord and Master, in order to work by them, upon his immeasurable estate, for the benefit of the whole family, and, rather, thinking themselves the absolute proprietors of all, which hath been

committed to them by their Creator, they will, indeed, do nothing that is not for their own sakes, nor labour, but for their own benefit. Their own feelings must, therefore, convince them, that neither their designs, nor their actions, and sufferings, carry any merit with them, in the eyes of their Lord, and that they have no reward to hope for from either their exertions, or their sufferings. They cannot, then, lift up their eyes towards heaven: ashamed of their own conduct, they would wish, that there was no God, and Lord, over them, and hard, very hard, would it, then, be for such to look forward for futurity, at the moment when they must leave behind them all that they thought to be their own. They may hear, indeed, of great rewards to come, but, I fear, this will not release them from a very rational doubt of their ever obtaining them.

I wish, and hope, you may never resemble such, as those defined, never preclude your fellow-creatures of what is committed to you for dispensation, and never convert the property of your Lord, and Master, solely to your own private use! nor is there any reason, or inducement, for it, with regard to our glorious Creator. He will, no doubt, most graciously bestow

upon you much more than you can appropriate to yourselves, without his consent. He is not looked upon as a self-interested, but as a generous, master, and served, not because he himself hath need of your service, but, because he is your Creator, and benefactor, who, by your actions, and sufferings, in the common cause of creation, can administer to the rational world new causes of admiration, and fullness of delight, not only in regard to his own most gracious designs, but, also, with respect to your conduct, and faithfulness, which must render you truly amiable in the eyes of spirits.

DEAR children! never be so rash as to condemn, or despise, those of your brethren, and sisters, who cannot see so far. You, and I, also, if we had been born, and educated, in the same circumstances with the most ignorant, and wicked, might have been what they now are. We have nothing to glory in, except the mercy of our heavenly Father, by which, even in this transitory world, we may enjoy the most delightful prospects of the world to come. Let us not be proud of this prospect; let us not neglect humanely to invite others to come, and to participate,

and to enjoy it, with us. Therefore, what I tell you, I wish you, of course, to tell others, also.

EVER, consider this world as one of the innumerable settlements of the glorious Creator, and yourselves as his stewards, or domestics, hired by him, and sent hither, to contribute, as much as you possibly can, to its improvement, and its happiness. This is all that I desire of you, and, then, the continual remembrance of the Deity will be the more pleasing to you.

FOR, should your habitations ever be injured, or destroyed; should your possessions be scattered, or taken from you; you should not, then, be grieved; for, you will be no losers, even by this, provided you have carried yourselves as domestics of the Lord, and have acted like faithful stewards, in endeavouring to prevent loss, and destruction.

THE all-provident Lord, and Master, hath, then, suffered the house to be injured, and destroyed. It is he who hath taken away, not what was yours, but what was his own. Hath he burnt, or pulled down? he, surely, knows how to build up, what is much better. Hath he destroyed? he can construct anew. And hath he scattered, and taken away? he can soon

collect again, and gather together. You were not the owners of these things, that you should lament the loss of them, and he was not hired by you, to watch over them, that he should incur your censure, when accidents befall them.

FOR whom, also, is the vast provision upon this immeasurable estate intended, since your Lord, and Master, himself, neither eats, nor drinks? for men, undoubtedly, dear children! for men, and, also, for beasts! eat, then, drink, then, my children, with all the gladness of your hearts, and administer sustenance to all, who, by the direction of your Lord, are around you, or come in your way! eat, drink, and administer eating, and drinking, with all the other necessities of life, with all willingness, ever according to the ability of yourselves, and the wants of others, in such a degree as will preserve to yourselves, and to them, health, and strength, for further service! it is not his will, and pleasure, that you shall suffer from hunger, or from thirst; for, your Lord, and Master, is infinitely liberal, and benevolent.

BUT, as to those who eat, or drink, more than is good for them, how can you envy such, and not rather pity them, since their excesses subject them to sickness, and

accelerate their own dissolution, as well as prevent their future services, and, consequently, their rewards?

OR, how could you envy such as eat and drink moderately, indeed, yet, not like you, as domestics sitting at the table of your Lord, but, rather, as lords themselves, sitting at their own? whatever is relishable you may eat, and drink, as well as those, and, thus far, your condition is by no means worse. But, as you eat, and drink, like faithful servants, with the intent of acquiring new strength for the service of your Lord, so your eating and drinking carry with them something very noble, and deserving of the approbation of the Lord, which will, forever, be productive of the best of his rewards. Your condition, therefore, is, undoubtedly, much better. O! poor mortals, how much happier would you be, did you not contract your views, and justly value your present stations!

MOREOVER, if you have been faithful servants, or stewards, of the Lord, although sickness, and infirmity, should disable you from working any more, the Lord, whom you serve, is very generous. And, if your infirmity is brought upon you in his service, doubt not, that the King of kings will be much more generous, than the earthly monarch, mentioned Dis. xiv.

WHEN death himself approaches, he is but the messenger of your Lord, and Master, and hath nothing in commission, but to summon you to give an account of your stewardship, and to receive what you have deserved. If you have followed the advice of your father, and if you have considered yourselves as the servants, and stewards, of this Lord, you will, no doubt, have your accounts stated, and need not be afraid, or ashamed, to present them, that you may be honourably discharged for what you have received, or recompensed for what you have done, and suffered, in the service of the great family of your Lord, and Master.

No brave man will engage himself for a morsel of bread, or a piece of meat only, but expects from the liberality of his master, that he will be further rewarded. Think of this, dear children! and consider, whether rewards can be found upon this globe for the faithful servants of God?

THE most faithful of them must die, and leave behind him every thing, that he hath received by God. Could these things, then, be his wages? beside this, numbers of the most faithful servants of God, have, even in the service of him,

been killed, and burnt alive: can their rewards, then, be found upon this globe?

It would be criminal in a master in this commonwealth, first, to give his journeyman his wages, and, afterwards, to kill him, that he may give the very same to a second, to a third, &c. But, with our great Lord, and Master, supreme power, with all his other infinite attributes, can never clash with, but must corroborate the nature of, equity, of right, and wrong. What truth can, then, be more evident, than that the rewards for the servants of God must be reserved for them in a world to come?

CAN a fountain send forth at the same place, and time, sweet water, and bitter? or can he who is the fountain of life, and production, be the fountain of eternal death, and entire annihilation, also?

You have seen innumerable transformations, and you may see them, almost daily, in the insect tribes. Therefore, why should you doubt of the transformation of men?

No longer think, that God destroys his rational creatures, when he only transforms them! how blasphemous is it rather to consider the Creator as the murderer of all that live upon earth, even the worthiest not excepted, than as the giver of a subsequent life? how absurd to set bounds

to the power, and beneficence, of the Deity, as they do who deny a future state of being!

A potter who should daily form a vast variety of most elegant vessels, yet daily break as many to pieces, would, indeed, be thought out of his senses. But, let the potter carry his wares into a foreign country, to places where they may be applied to various purposes, and he will be commended for his skill, and industry.

To such a foreign country, then, and to such foreign places, raise your thoughts, my children! ever endeavouring there to secure for yourselves some worth in the estimation of those blessed spirits, who inhabit the same! if you would know, how to do so, only attend to the instructions apparent in all the works of your great Master, and you will need no other teacher; for, all his works are ordered in the best manner for his creatures. Therefore, reverentially imitate him, dear children! according to your ability; act as, you see, he acteth! indefatigably, and unremittingly, labour to prevent, to oppose, and to remove, every thing which is bad; that is to say, every thing which is eventually injurious to yourselves, or to your fellow-creatures, and, therefore, offensive to the proprietor, your Creator! labour to

explore, to promote, and to improve, every thing which is good, that is to say, eventually beneficial, and, therefore, acceptable to God! never be afraid of suffering, in a good cause, out of attachment to your great Master, for the good of his family: so, dear children, an habitual sense of the all-present God will, at all times, afford you hope, and delight. So, you will become worthy of that blessed estimation of those spirits who, most certainly, admire the facts of God, whom you endeavour to imitate! and, thus, the wages of righteousness will be ministered unto you abundantly, at your entrance into the everlasting kingdom of glory, and of happiness.

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